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**Pacific
Northwest
Region**

1986

Proposed Land and Resource Management Plan

Wallowa–Whitman National Forest

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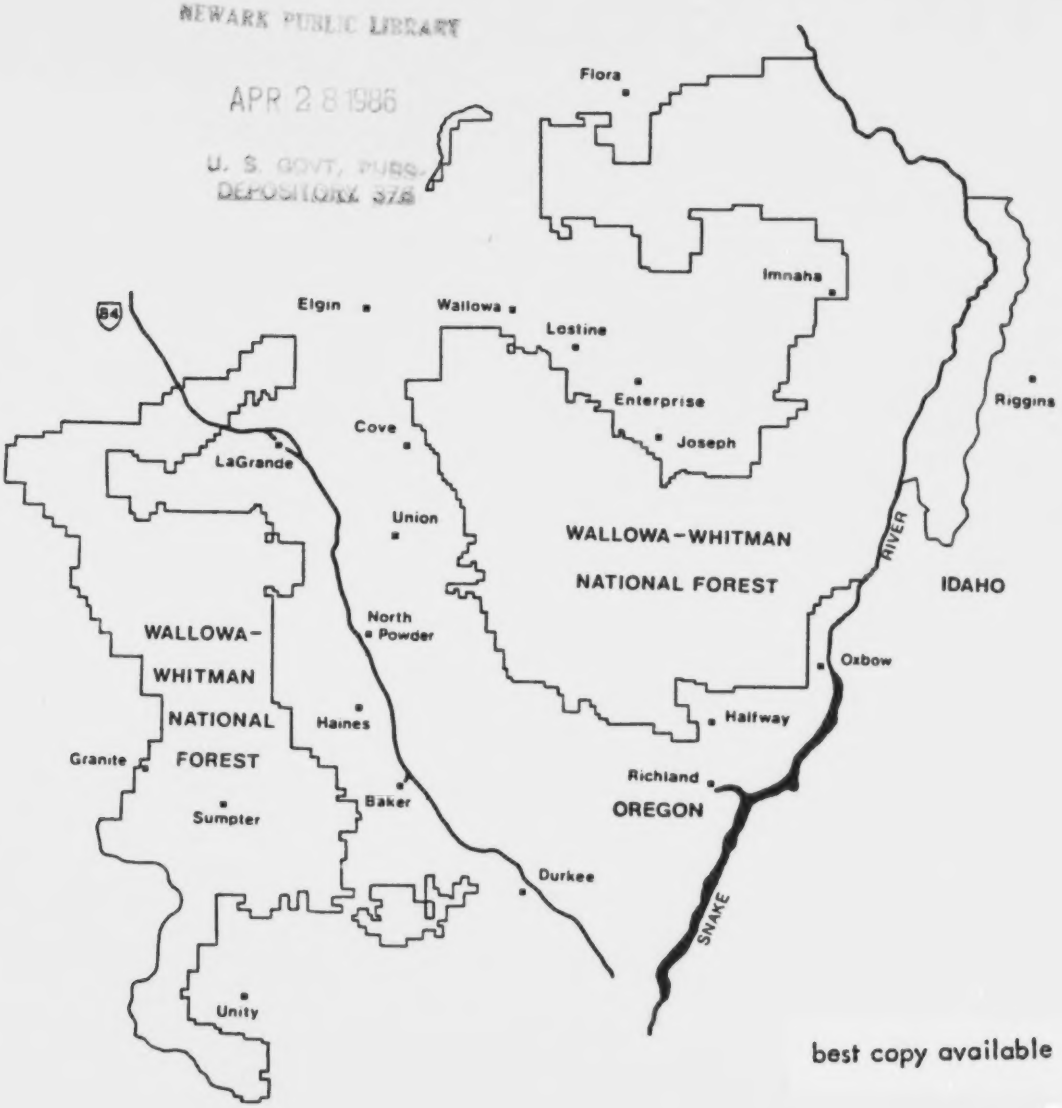

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PREAMBLE

Preface

This Forest Land and Resource Management Plan (Forest Plan) has been prepared according to Secretary of Agriculture regulations (36 CFR 219) which are based on the Forest and Rangeland Renewable Resources Planning Act (RPA) as amended by the National Forest Management Act of 1976 (NFMA). The plan has also been developed in accordance with regulations (40 CFR 1500) for implementing the National Environmental Policy Act of 1969 (NEPA). Because this plan is considered a major Federal action significantly affecting the quality of the human environment, a detailed statement (environmental impact statement) has been prepared as required by NEPA. The Forest Plan represents the implementation of the preferred alternative as identified in the Draft Environmental Impact Statement (DEIS) for the Forest Plan.

The goal of the Plan is to provide a management program reflective of a mixture of management activities that allow use and protection of the Forest resources; fulfill legislative requirements; and address local, Regional and National issues and concerns. To accomplish this, the Forest Plan:

1. Establishes the management direction and associated long-range goals and objectives for the Forest for the next 10-15 years;

2. Specifies the standards and guidelines and the approximate timing and vicinity of the practices necessary to achieve that direction; and

3. Establishes the monitoring and evaluation requirements needed to ensure that the direction is carried out and to determine how well outputs and effects were predicted.

If any particular provision of this proposed action, or the application thereof to any person or circumstances, is held invalid, the remainder of the proposed action and the application of such provision to other persons or circumstances shall not be affected thereby.

Additional information about this plan is available from:

Forest Supervisor
Wallowa-Whitman National Forest
P. O. Box 907
Baker, OR 97814

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Chapter 1

FOREST PLAN INTRODUCTION

PURPOSE OF THE FOREST PLAN

The Forest Land and Resource Management Plan (Forest Plan) guides all natural resource management activities and establishes management standards and guidelines for the Wallowa-Whitman National Forest, those portions of the Nezperce and Payette National Forests that are administered by the Wallowa-Whitman National Forest Supervisor, and other lands within the Hells Canyon National Recreation Area (HCNRA). It describes resource management practices, levels of resource production and management, and the availability and suitability of lands for resource management.

RELATIONSHIP OF THE FOREST PLAN TO THE REGIONAL GUIDE

The Forest Plan embodies the provisions of the National Forest Management Act, the implementing regulations, the Pacific Northwest Regional Guide, and other guiding documents. The Regional Guide provided Regional standards and guidelines and tentative Forest resource objectives from the 1980 RPA program for the Forest. These were used in formulating this Plan. Land use determinations, prescriptions, and standards and guidelines are statements of the plan's management direction; however, the projected outputs, services, and rates of implementation are dependent on the annual budgeting process.

This plan will guide Forest Service programs and activities on the Wallowa-Whitman National Forest beginning in 1987. It will ordinarily be revised on a 10-year cycle or at least every 15 years.

RELATIONSHIP OF THE FOREST PLAN TO THE EIS

This Forest Plan sets forth the preferred alternative for managing the resources of the Wallowa-Whitman National Forest. The Plan results from extensive analysis and considerations that are addressed in the accompanying environmental impact statement (EIS). The planning process and the analysis procedures that were used to develop this plan are described or referenced in the EIS. The EIS also describes other alternatives considered in the planning process. Activities and projects will be planned and implemented to carry out the direction in this plan. The Forest will perform environmental analysis on these projects and activities. Project level environmental analysis will use the data and evaluations in the plan and

EIS as its basis and will supplement this EIS with more specific data and evaluation. Documentation of project level analysis will be tiered to the EIS accompanying this Forest Plan.

RELATIONSHIP OF THE FOREST PLAN TO PROJECT PLANNING

The management direction provided by this Forest Plan comprises the framework within which project planning and activities take place. It defines management area goals and management standards that guide project activities toward achieving a desired future condition for the management area and, collectively, for the Forest. It specifies a schedule for project activities (management practices). It provides guidance concerning potential landtype and habitat type limitations, including assumptions about the appropriate vegetation management practices for timber sales and other projects.

Within this guidance, projects are developed to most efficiently and effectively accomplish management goals and objectives. All National Environmental Policy Act of 1969 requirements will be followed in all projects.

Project environmental analyses provide an essential source of information for Forest Plan monitoring. First, as project analyses are completed, new or emerging public issues or management concerns may be identified. Second, the management direction designed to facilitate achievement of the management area goals are validated by the project analyses. Third, the site specific data collected for project environmental analyses serve as a check on the correctness of the land allocation. The information included in the project environmental analyses is used in the monitoring process to determine changes that should be made in the Forest Plan.

RELATIONSHIP OF THE FOREST PLAN TO OTHER PLANS

All previous resource management plans, except the Comprehensive Management Plan (CMP) for the Hells Canyon National Recreation Area, are replaced by this document. Resource management objectives and schedules of resource management practices for each management area are displayed in Chapter 4.

The CMP for the Hells Canyon National Recreation Area was approved on April 29, 1982 and is incorporated into this plan by reference. Development of the Hells Canyon Plan was required by Public Law 94-199. The regulations guiding the development of Forest Plans (36 CFR 219.2(b)) state that "(if), in a particular case, special area authorities require the preparation of a separate special area plan, the direction of any such plan may be incorporated without modification in plans prepared under (these regulations)." For the following reasons, the Hells Canyon Comprehensive Management Plan is being incorporated without modification into this Forest Plan: (1) the analysis completed during development of the Hells Canyon Comprehensive Management Plan is still valid, i.e., the issues and concerns identified as being important in management of the area, along with the preferred

alternative for resolving those issues, are unchanged; (2) the process for amending or revising the Hells Canyon Comprehensive Management Plan was established by the Assistant Secretary of Agriculture's appeal decision of April 27, 1984; and (3) the National Forest Management Act implementing regulations require that "a Forest Plan shall ordinarily be revised on a 10-year cycle or at least every 15 years. It may also be revised whenever the Forest Supervisor determines that conditions or demands in the area covered by the plan have changed significantly or when changes in RPA policies, goals, or objectives would have a significant effect on Forest-level programs." Revision or amendment of the Forest Plan will include reconsideration of the Hells Canyon NRA.

Several documents designed to give further guidance to management activities have been or will be tiered to this Forest Plan.

Examples of such documents are:

Forest Travel Plan
Livestock Grazing Allotment Management Plans
Fire Management Action Plans
Wilderness Management Plans
Cultural Resource Management Plans
Phillips Lake Recreation Area Management Plan
Oregon Trail Management Plan
Forest Development Transportion Plan

The Management Plans for the Hells Canyon and Eagle Cap Wildernesses, the Landownership Plan and the Timber Management Plan, are presented as appendices to the plan. Other plans are available at the Forest Supervisor's Office, Wallowa-Whitman National Forest, P. O. Box 907, Baker, Oregon 97814.

PLAN STRUCTURE

The plan is presented in seven chapters, each briefly described as follows:

Chapter 1 is the introduction which describes the purpose of the plan, summarizes the content, establishes the area covered by the plan, and illustrates the geographic location.

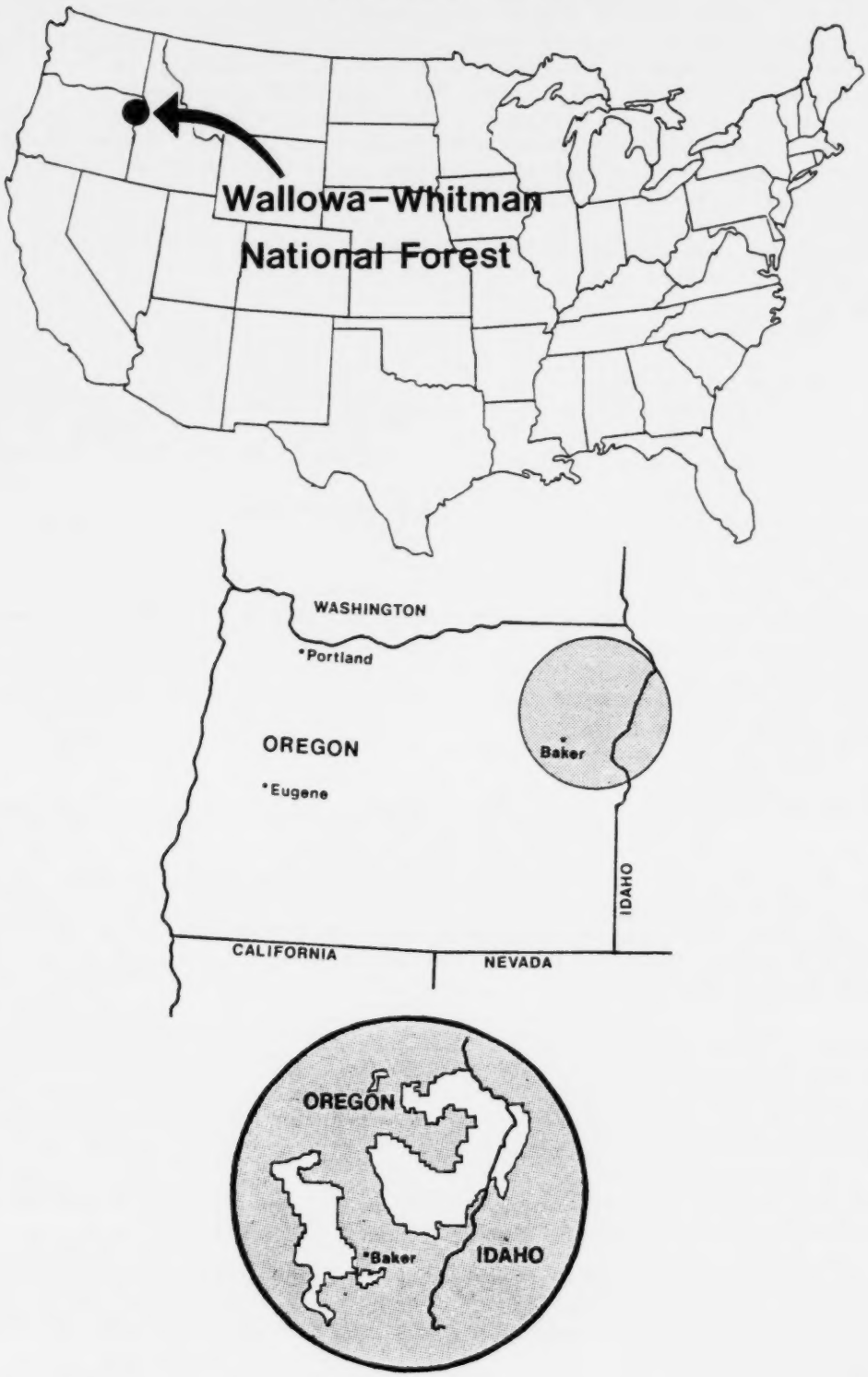
Chapter 2 provides a summary of the Analysis of the Management Situation. It includes brief descriptions of resource management situations and as appropriate, demand and supply conditions for various commodities and services, productivity potentials, use and development opportunities, and reasons for changing management direction.

Chapter 3 summarizes the major public issues and management concerns, explaining how each was resolved in the planning process.

Chapter 4 describes the goals, standards, and guidelines established for the period of the plan. Included is a section describing multiple resource prescriptions (management strategies) that are specific to each management area.

Figure 1 - 1

VICINITY MAP



Chapter 5 includes implementation direction, a plan for monitoring and evaluating Forest Plan implementaton, and a description of the process for plan amendment and revision.

Chapter 6 contains a glossary of terms used in this document. Following Chapter 6 are the appendices. Included are detailed schedules of projected activities by resource, wilderness plans for the Eagle Cap and Hells Canyon Wildernesses, a landownership plan, and a ten-year timber sale action plan.

FOREST DESCRIPTION

The Forest is in the northeast corner of Oregon and the west central edge of Idaho as shown on the vicinity map on the preceding page. It lies within Wallowa, Union, Baker, Malheur, Umatilla, and Grant Counties in Oregon and Adams, Idaho, and Nez Perce Counties in Idaho. It contains over 2.3 million acres of Federal land.

The Forest Supervisor's Office is in Baker, Oregon, with Ranger Stations for the seven Ranger Districts (Including the Hells Canyon National Recreation Area) located in the towns of Unity, Halfway, Baker, La Grande, Joseph, and Enterprise (all in Oregon) with the Hells Canyon National Recreation Area Office also in Enterprise. For details on the Forest organization, see Chapter 2, Summary of the Analysis of the Management Situation.

Chapter 2

SUMMARY OF THE ANALYSIS OF THE MANAGEMENT SITUATION (AMS)

CURRENT MANAGEMENT SITUATION

Throughout this document the Wallowa-Whitman National Forest refers to the area administered by the Wallowa-Whitman Forest Supervisor. It includes the Wallowa and the Whitman National Forests and those portions of the Nezperce and Payette National Forests that lie within the Hells Canyon National Recreation Area with the exception of the Rapid River Corridor.

The Forest includes all or portions of six planning units. Plans for these units describe which resources will be emphasized on which acre of the Forest. 1/ The planning units are as follows.

Wallowa Valley
Grande Ronde 2/
Burnt Powder
Hells Canyon 3/
Desolation 2/
Elgin 2/

These unit plans, sometimes referred to as land allocation plans, do not schedule when management action will take place. Scheduling is accomplished through functional resource plans, e.g., range allotment plans, wilderness management plans, watershed plans, timber management plans, and transportation plans.

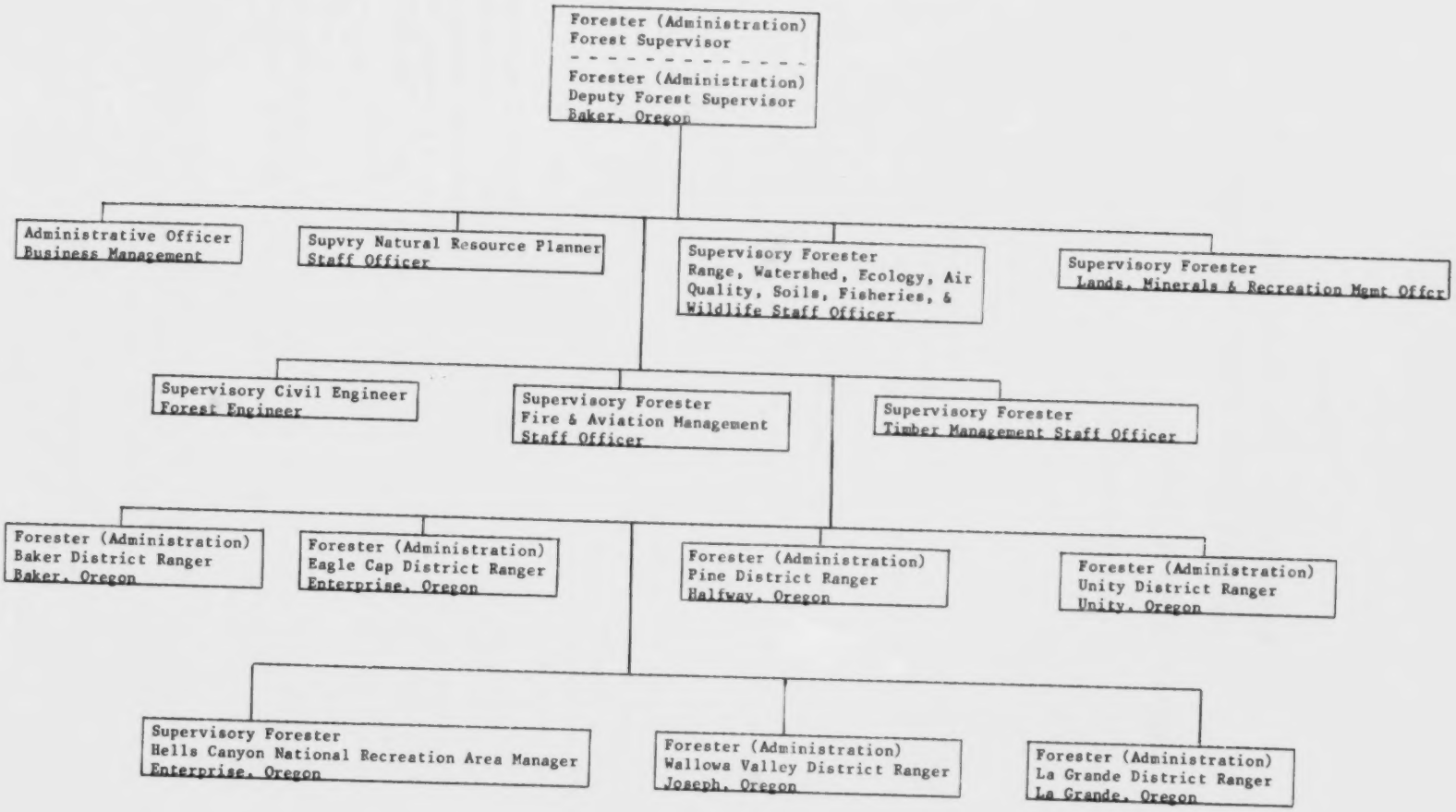
The Forest Land and Resource Management Plan (Forest Plan) will replace the unit plans and incorporate the Hells Canyon NRA Plan, thereby bringing the area administered by the Wallowa-Whitman Forest Supervisor under one plan. Many of the functional plans will still be necessary but timber harvest scheduling will be accomplished through the Forest Plan. The Timber Management Plan, as a separate entity, will be eliminated.

1/ Unit plans are actually environmental impact statements for the allocation of land within the planning unit. The selected alternative of each EIS is the "Plan."

2/ Desolation and Elgin Units lie primarily on the Umatilla National Forest but include portions of the Wallowa-Whitman. Similarly, the Grande Ronde Unit includes minor amounts of the Umatilla National Forest.

3/ The Comprehensive Management Plan for the Hells Canyon National Recreation Area was prepared in response to Congressional direction (Public Law 94-199). It serves the same purposes as a unit plan.

Figure 2-1
WALLOWA-WHITMAN NATIONAL FOREST
ORGANIZATION



The Wallowa-Whitman National Forest is administered by a Forest Supervisor, a Deputy Forest Supervisor, six District Rangers, and an NRA* Manager. Seven staff officers function in support of the nine administrators. The organization chart, Figure 2-1, illustrates the relationship between the principal managerial and staff positions on the Forest.

MANAGEMENT SITUATION BY RESOURCE

This section provides a summary of the management situation for the Forest programs. Included for comparison purposes is Table 2-1 showing projected Forest outputs (targets) and activities as displayed in the Regional Guide for the Pacific Northwest Region (May 1984).

Recreation

The Forest offers a wide range of outdoor recreation opportunities varying from primitive hiking and horseback riding experiences within wilderness and the Hells Canyon National Recreation Area to the relatively developed atmosphere found at Anthony Lakes, Phillips Lake and a number of other recreation sites. Although recreation is concentrated in the late spring, summer and fall when most of the Forest is accessible by wheeled vehicle, opportunities for winter recreation are abundant for those interested in downhill or cross-country skiing, snowshoeing or snowmobiling.

The Forest has a general surplus of supply over existing and projected recreation demand. It will maintain the surplus through 2030 though changes will occur in recreation use by Recreation Opportunity Spectrum (ROS) class, especially as more land in the semiprimitive recreation classes is converted to the roaded recreation classes. The challenge to management will be dispersing use from the popular focal points to other available areas. Some recreational sites near lakes and streams are now at capacity during summer months.

A principal recreation use conflict exists between motorized use, non-motorized use, and habitat for Rocky Mountain elk. Studies have shown that elk tend to avoid areas near motor vehicle travel routes. Some trails and low standard roads have been closed to motorized use for this reason. Logging road development has eliminated other primitive motorized travel routes. Thus, opportunities for vehicle travel on primitive roads are decreasing.

Recreation opportunity has been identified as a major concern on the Forest. Recreation concerns are repeatedly reflected in the issues of transportation system management, timber management, and the management of undeveloped areas. Other issues, such as wildlife production and recreation diversity, are inherently recreation-oriented.

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*National Recreation Area.

Table 2-1
RPA PROGRAM OUTPUTS, ACTIVITIES AND COSTS FOR THE WALLOWA-WHITMAN NATIONAL FOREST

Output/Activity	Unit of Measure	Annual Units					
		1986	1987	1988	1990	2000	2030
Recreation							
Developed Recreation Use (Includes VIS)	MRVD's	407	407	407	407	410	430
Dispersed Recreation Use (Includes Wildlife and Fish)	MRVD's	1,180	1,180	1,180	1,180	1,260	1,450
Trail Construction/Reconstruction	Miles	70	70	70	70	73	80
Wildlife and Fish							
Wildlife Habitat Improvement	Thousand acres	10.917	10.917	10.917	10.917	9.293	4.602
Anadromous Fish Improvement	Thousand pounds	52.500	52.500	52.500	52.500	108.000	144.000
Range							
Grazing Use (Livestock)	Thousand AUM's	206	206	206	206	208	220
Timber							
Programmed Sales Offered	Million board feet Million cubic feet	220 41	220 41	220 41	220 41	220 41	220 41
Reforestation	Thousand acres	3.200	3.200	3.200	3.200	3.670	4.500
Timber Stand Improvement	Thousand acres	4.160	4.160	4.160	4.160	4.280	4.480
Water							
Meeting Water Quality Goals	Million acre feet	2.670	2.670	2.670	2.670	2.850	2.970
Minerals							
Minerals Leases and Permits	Operating Plan	380	380	380	380	425	500
Human and Community Development							
Human Resources Programs 1/	Enrollee years	4	4	4	4	4	4
Protection							
Fire Management Effectiveness Index	Dollars/ thousand acres	1,214	1,214	1,214	1,214	1,214	1,184
Fuelbreaks and Fuel Treatment	Acres	2,838	2,838	2,838	2,838	2,838	2,838
Lands							
Land Purchase and Acquisition (Excludes Exchange)	Thousand acres	.400	.400	.400	.400	0	.050
Soils							
Soil and Water Resource Improvement (Improved Watershed Condition)	Thousand acres	1.000	1.000	1.000	1.000	0.900	0.600
Facilities							
Returns to Government Road Construction/Reconstruction (Arterial, Collector)	Million Dollars 2/ Miles	10.0 4.7	10.0 4.7	10.0 4.7	10.0 4.7	13.0 5.4	27.1 7.2
Costs Total Forest	Million dollars	25.1	25.1	25.1	25.1	26.3	26.8

1/ Human resource programs whose funds are allocated to the Forest Service are not included.
2/ All costs and returns are shown in constant 1978 dollars.

Recently, local private interests have begun restoring a portion of the historic Sumpter Valley Railroad. Nationally recognized for its historic significance (it is a listed National Register District), this narrow-gauge railroad first served the Sumpter area in 1896, providing the main link between the sawmills in Baker and the extensive stands of ponderosa pine found in Sumpter Valley and surrounding mountains. Known as the "Stump Dodger" this train contributed significantly to the mining-related boom town development of Sumpter in the early 1900's. A section of track through Sumpter Valley has been reconstructed and train rides are available to the public.

Historical and projected dispersed and developed recreation are displayed in Tables 2-2 through 2-4 along with Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA) estimates, as amended, as identified in the Regional Guide.

To identify the recreation resource environment, the Forest is classified into various categories of the Recreation Opportunity Spectrum (ROS). The ROS is a categorization of land according to a range of recreation experience opportunities.

The six spectrum categories range from primitive to urban. They describe a variety of recreation situations a visitor can experience ranging from presence in an undisturbed, natural environment with little contact with other humans to a highly modified, altered environment with a maximum of varied contacts with others. The current situation by ROS classification for the Forest is shown in Table 2-5.

(See the Glossary for a more detailed description of the ROS classes.)

The creation of the 655,000-acre Hells Canyon National Recreation Area (HCNRA) in 1975 (P. L. 94-199) has had a significant impact on the Forest. Management of the HCNRA is pursuant to its own Comprehensive Management Plan. This plan proposes construction of a number of additional recreation sites including campgrounds at Pittsburg Landing, the Upper Imnaha River area, Hells Canyon Reservoir, Dug Bar, near Hat Point and Low Saddle, and in the vicinity of Seven Devils Guard Station. This is expected to increase developed recreation capacity by approximately 78,000 RVD's.

The Forest has over 60 private individuals operating under special-use permits and providing recreation services for the public. Outfitting and guiding operations provide opportunities for floating, powerboating, horseback riding, hunting, fishing, hiking, cross-country skiing, and bus touring. The Union Creek Campground consists of Government-owned facilities which are operated by a private concessionaire. The Anthony Lakes winter sports facilities and Mt. Howard gondola are privately-owned facilities operated on National Forest land. In all commercial operations a percentage of the permittee's income is paid to the Government for use of the public lands or facilities.

Table 2-2
RECREATION USE
(Recreation Visitor Days by Fiscal Year)*

	1981	1982	1983	1984	Average 1981-1984
Developed	394,300	406,500	344,500	316,400	366,700
Dispersed	978,700	1,370,900	1,114,700	1,113,000	1,144,300
Total	1,373,000	1,777,400	1,464,200	1,429,400	1,511,000

*Forest Recreation Information Management (RIM) reports. Includes HCNRA in its entirety.

The question of motorized versus nonmotorized use remains a point of debate. Many of those favoring motorized recreation cite a need to be able to see more country, more scenic views -- occasionally noting physical limitations as an underlying reason. Those against expanding the road system point to the high amount of roaded recreation currently available on the Forest.

Today the principal reason roads are constructed on the Forest is timber harvest. Recreation roads, or roads constructed to a higher standard for recreation, are financed from the Regional capital investment fund in competition with other Forests in the Pacific Northwest Region. In practice these occasions are rare due largely to limitations in funding, the number of Forests competing for the available funds, and the Regional emphasis on recreational capital investments in Forests close to large population centers. Regardless of the original purposes, most roads, if left open, are suitable for recreation use by high clearance vehicles. This presently amounts to some 5,000 miles. An additional 750 miles are maintained for passenger car use.

Wilderness

The Forest contains two complete wildernesses plus portions of two others, for total designated wilderness of 582,700 acres. Wilderness acreage, present use, capacity, and predicted use at the year 2025 are shown in Table 2-5. (See the individual wilderness management plans for detailed data for each wilderness.)

The Eagle Cap Wilderness was created in 1940. Subsequent legislation added to the original acreage in 1972 and most recently in 1984. The Hells Canyon Wilderness was established by the Hells Canyon National Recreation Area legislation. An addition was made in 1984. The Monument Rock and the North Fork John Day Wildernesses were established in 1984. The majority of each of these areas lies on the adjacent Malheur and Umatilla National Forests which have primary responsibility for their planning.

Table 2-3
DEVELOPED RECREATION USE (PROJECTED)
(Recreation Visitor Days by Fiscal Year)

	Base (1981-1984)	1986-1990	1991-2000	2001-2010	2011-2020	2021-2030
RPA TARGETS 1/		407,000	410,000	410,000	410,000	430,000
PROJECTED USE 2/	366,700	399,000	464,000	523,000	572,000	635,000

TABLE 2-4

DISPERSED RECREATION USE
(Recreation Visitor Days RVD's by Fiscal Year)

	Base (1981-1984)	1986-1990	1991-2000	2001-2010	2011-2020	2021-2030
RPA TARGETS 1/		1,180,000	1,260,000	1,310,000	1,350,000	1,450,000
PROJECTED USE 2/	1,144,300	1,245,000	1,447,000	1,630,000	1,783,000	1,980,000

1/ Regional Guide, Table 3-24.
2/ Projections are based on the population growth rates contained in the 1980 OBERS projections. Decadal increases from Vol. 1, p. 117. OBERS is an acronym for the joint effort of the Office of Business Economics (OBE), now the Bureau of Economic Analysis (BEA), U. S. Department of Commerce; and the Economic Research Service (ERS) of the U. S. Department of Agriculture. Figures shown are respective to decades 1-5 of the Forest Plan.

Table 2-5
RECREATION OPPORTUNITY SPECTRUM

Category	Acres	Existing Supply 1/ (RVD's)	Projected Use 2/ (RVD's)	Current Use 3/ (RVD's)
Nonwilderness				
Urban and Rural	1,500	172,700	187,000	106,000
Roaded Modified	126,300	1,209,800	4/	4/
Roaded Natural	1,101,400	4,925,000	1,568,000	887,000 5/
Semiprimitive Motorized	260,200	573,700	474,000	268,000
Semiprimitive Nonmotorized	269,000	322,800	216,000	122,000
Primitive	8,115	7,000	11,000	6,000
Total	1,766,515	7,211,000	2,456,000	1,389,000
Wilderness				
Semiprimitive	340,700	193,200	162,000	91,700
Primitive (Trailed)	242,000	78,400	54,000	30,300
Primitive (Trailless)	0	0	0	0
Total	582,700	271,600	216,000	122,000
Grand Total	2,349,215	7,482,600	2,672,000	1,511,000

1/ Procedures detailed in "Recreation Input to Land and Resource Management Planning," FSH 1909.12 Chapter 500 (11/80 draft) as discussed elsewhere herein were followed. As existing supply, it does not reflect capacity gained by construction.
2/ Based on population projections to the year 2025 referenced in Tables 2-14, 2-15. Assumes that existing land uses are maintained.
3/ Based on RIM Report 2300-1RI, 12/20/83, p. 450.
4/ Included in Roaded Natural.
5/ Includes Roaded Natural Modified.

With the 1984 wilderness additions, virtually all of the primitive and about 40 percent of the semiprimitive acres on the Forest have been designated wilderness. If present trends continue, the primitive and the semiprimitive acreage outside wilderness will continue to shrink and those seeking the recreational experiences these areas provide will be drawn more and more to designated wilderness. Those same use trends indicate that there will be adequate capacity available to meet demand even beyond the year 2025. The Forest has no land fitting the category of trailless wilderness, though there are opportunities for off-trail recreation in the Eagle Cap Wilderness.

Due to its relatively low level of use, there are few conflicts between public use and maintenance of wilderness character. Some areas around lakes in the Eagle Cap Wilderness do receive intense use during July and August; popular hunting areas are heavily used during October and November. See the individual wilderness management plans for a discussion of these situations and management strategies for dealing with them.

Visual Quality

Much of the 2.3 million acre National Forest retains a near-natural appearance when viewed by the casual observer from its many broad valley viewsheds. The past management practices causing the most disturbance include the clearcutting of dead and dying lodgepole pine. Activities which resulted in modification to the landscape include roads, clearcuts and other harvests, utility corridors, mining dredge tailings, other mining operations, numerous rock quarries, and water impoundments. To date, approximately 132,000 acres have been physically altered. The timber harvest program can be expected to maintain or increase the incidence of clearcuts. This is the result of both clearcut harvest systems and other harvest systems such as shelterwoods which remove the overwood some ten years after the shelterwood harvest. Likewise, utility corridors, mine tailings, and quarries will be long-term modifications.

The visual resource has been inventoried according to the National Forest Visual Management System. This provides an inventory of the existing visual condition as well as the desired visual quality levels. The desired visual quality levels are based on a purely visual management value system. The actual visual quality objectives of the various management alternatives may or may not be the same as the desired levels. Current land management direction from unit plans requires that these objectives be met to the extent practicable at all management activities. At present, there are 539,443 acres in sensitivity level 1 viewsheds. (See map in map packet.)

National Wild and Scenic Rivers

Within the Forest, only the Snake River is included in the National Wild and Scenic Rivers System. However, in 1980 the Heritage Conservation and Recreation Service inventoried seven rivers on the Forest as being eligible for inclusion in the system. Those considered eligible and included in the inventory are all or portions of the following: Grande Ronde River, Joseph Creek, South Fork Imnaha River, Imnaha, Lostine, Minam, and North Fork John

Day Rivers. Public comment resulted in Eagle Creek and the North Powder River being added to the eligible list. Under this plan the nonwilderness portions of the North Fork John Day and Grande Ronde Rivers (lower Grande Ronde) are recommended for inclusion in the National Rivers system. A Legislative Environmental Impact Statement will be prepared to support this recommendation. For additional information see the Draft Environmental Impact Statement for this Land and Resource Management Plan.

Wildlife

There are 379 species of terrestrial vertebrate wildlife within the geographic area of the Wallowa-Whitman National Forest. These species include 10 amphibians, 16 reptiles, 263 birds and 90 mammals. Fifty-one of the bird species are migrant or incidental visitors only. More complete descriptions of species and their habitats are found in Wildlife Habitats in Managed Forests.* The Wallowa-Whitman is noted for Rocky Mountain elk and mule deer and the hunting these species provide. Bear, cougar, mountain sheep, grouse and chukar partridge are also hunted.

Many species of wildlife are adaptable to use of the Forest by humans. Some are not, or are not capable of sustaining as high a population level as is possible in a forest with little human influence. An example is the mountain bluebird whose numbers have apparently declined in direct proportion to the decline in standing dead nesting trees. The numbers of cougars, bobcats, pine martens and numerous other species have also declined as public use of the Forest has increased. Historically, these species were not valued to the same extent as game animals which provided food and a high degree of hunting recreation, so their decline did not arouse great alarm.

Deer, and to a lesser extent elk, are relatively adaptable to human activities; elk are probably present in greater numbers today than at any time in recorded history. However, because of their importance to the recreational hunter and the steady increase in hunters, there is a desire for more animals to hunt. Since deer and elk utilize the coniferous forest for cover, and eat many of the same plants which livestock eat, conflicts can occur.

While the Forest Service has the responsibility for managing wildlife habitat on National Forest lands, the States are responsible for managing the wildlife species on all lands. In Oregon this responsibility is assumed by the Oregon Department of Fish and Wildlife (ODF&W). In Idaho the programs are managed by the Idaho Fish and Game Department. These wildlife management agencies are pressured by the hunting public to increase elk numbers, the habitat of which is on public and private lands which have competing uses. In recognition that big-game numbers cannot continue to increase indefinitely, the States have established elk and deer population

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* Thomas, Jack W. and Others. Wildlife Habitats in Managed Forests of the Blue Mountains of Oregon and Washington. Agriculture Handbook No. 553. Portland, OR: U. S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station: 1979.

objective levels by game management unit. At present most units on the Wallowa-Whitman have reached these target levels. Big-game numbers on the Idaho portion of the HCNRA are below recent historical levels and State management objectives.

Unlike such Forest outputs as timber, domestic livestock grazing, and water, the relationship between the available quantity of big game and its use is not direct. In the case of big game, the benefit is in the recreation provided. Deer and elk support a high level of recreational activity since hunters (especially elk hunters) tend to tolerate a low rate of success.

The eating habits of elk are much closer to those of domestic livestock than are those of deer. It is recognized that there is a level of competition for forage between elk and domestic livestock where dual use by these animals occur. However, the actual amount or level of competition is highly variable between areas and seasons of the year and is not well understood.

Deer and elk which summer on the Forest also impact area ranchers, especially where the ranches lie within the natural winter range of the game animals. This problem has been somewhat mitigated by State feeding programs.

The Regional Guide provides RPA targets for wildlife habitat improvement. These targets are shown in Table 2-6.

Table 2-6
WILDLIFE HABITAT IMPROVEMENT
(Acres)

	1986-1990	1991-2000	2001-2010	2011-2020	2021-2030
RPA Levels *	2,183	1,859	1,498	938	920

*Regional Guide, Table 3-24, adjusted to reflect acres rather than acre equivalents.

Management Indicator Species

The NFMA Regulations require that "...fish and wildlife habitat be managed to maintain viable populations of existing...species in the planning area." To insure this, the regulations direct that: (1) "Habitat must be provided to support, at least, a minimum number of reproductive individuals," and (2) "Habitat must be well-distributed so that those individuals can interact with others in the planning area." The key concepts in these two items are adequate numbers of reproductive individuals, and assurance that these numbers will continue to exist through interaction of individuals within the population.

To assure that these viable populations are maintained, the Pacific Northwest Region of the Forest Service has identified minimum management requirements (MMR's) for a number of wildlife species within the Region. These species are emphasized either because they are threatened or endangered (such as the bald eagle or American peregrine falcon) or because their populations can be used as an indicator of the health of a specific type of habitat. For example, the pileated woodpecker is highly dependent on snag habitat. If good habitat is provided for pileated woodpeckers and their population is maintained at some desired level, it is assumed that adequate habitat is also being provided for other snag-dependent species. Species used to indicate the suitability of specific types of habitat are called management indicator species.

The management indicator species on the Wallowa-Whitman are: the northern bald eagle and American peregrine falcon (threatened and endanagered species respectively); the Rocky Mountain elk (a species commonly hunted and also an indicator for mule deer habitat); the pileated woodpecker, goshawk, pine marten, whiteheaded woodpecker, and three-toed woodpecker (indicators of snag habitat and old-growth forest stands); Cooper's hawk and sharpshinned hawk (early successional forest habitat); the yellow warbler (riparian habitat); and salmonids (instream habitat). The rationale for selection of these indicator species is discussed in Appendix G of the Draft Environmental Impact Statement.

Fish

Chinook salmon and steelhead trout comprise the great bulk of the anadromous species spawned on the Forest. Anadromous fish from spawning grounds on the Wallowa-Whitman play a role not only as commercial and sport fish, but also in the culture of the Indian tribes who retain certain fishing rights to them by treaty.

Prior to the 1950's, the spawning streams of the Wallowa-Whitman played a significant role in the salmon and steelhead anadromous fisheries of the Columbia River System. However, beginning with Bonneville Dam in the mid-30's, a total of 11 dams have been constructed on the Columbia and the Lower Snake Rivers which have either totally blocked anadromous fish runs or have significantly contributed to their decline. Presently, the Imnaha and the Grande Ronde drainages are the highest upstream spawning streams on the Snake River in Oregon. Combined, they provide about 640 miles of spawning and rearing habitat for salmon and steelhead. Fish from these two streams must pass eight dams on the Lower Snake and the Columbia Rivers in their round trip to and from the ocean. An additional 46 miles of spawning and rearing habitat exist on the Upper North Fork John Day River on the Wallowa-Whitman. Fish from these streams pass three Columbia River dams. Juvenile fish (smolt) suffer heavy losses during downstream passage over or through these dams. The estimated survival rate for smolt making their way to the ocean in recent years is 0.2 to 0.7% on the Imnaha and the Grande Ronde, 2.5 to 4.0% on the North Fork John Day.

If this low rate of spawning escapement to the ocean were allowed to continue, the fish runs would soon disappear, particularly on the Imnaha and the Grande Ronde Systems. The full impact of the escapement problem can be seen in Table 2-7 (which contains supporting detail for this entire

Table 2-7
ANADROMOUS FISH SPAWNING PRODUCTION

Fish Species and Stream System	Miles of Natinal Forest Spawning & Rearing Streams	Estimated 1984 Situation: No. of Spawning Adults	Smolt to Ocean Survival		Catch of Fish		Estimated Situation With Full Escapement: No. of Spawning Adults	Smolt to Ocean Survival		Catch of Fish		Estimated Situation with Full Escapement & Habitat Enhancement: No. of Spawning Adults	Smolt to Ocean Survival		Catch of Fish	
			%	Fish	Fish	Lbs.		%	Fish	Fish	Lbs		%	Fish	Fish	Lbs.
Spring Chinook																
North Fork John Day	10	300	2.5	1,200	900	13,500	426	4.0	2,726	2,045	30,672	852	4.0	5,453	4,090	61,346
Upper Grande Ronde & above Rondowa	74	395	.4	340	226	3,390	1,897	4.0	16,314	10,767	161,505	2,617	4.0	22,506	14,854	222,810
Imnaha	95	300	.4	258	170	2,550	3,000	4.0	25,800	17,028	255,420	3,000	4.0	25,800	17,028	255,420
Fall Chinook																
Snake River	71	500	.4	430	284	5,680	-------- U N K N O W N -------					----------U N K N O W N ----------				
Summer Steelhead																
North Fork John Day	46.2	600	2.0	1,800	1,200	9,600	900	6.0	8,100	5,346	42,768	2,394	6.0	21,546	14,220	113,763
Imnaha River	206.9	1,000	1.0	1,800	900	7,200	5,680	4.0	40,896	20,448	163,584	5,680	4.0	40,896	20,448	163,584
Snake River	91.4	3,000	1.0	5,400	2,700	21,600	17,040	4.0	122,688	61,344	490,752	17,040	4.0	122,688	61,344	490,752
Grande Ronde	(434.0)															
Joseph Creek	135.0	418	1.0	752	334	2,672	2,708	4.0	19,497	8,657	69,255	4,077	4.0	29,354	12,916	103,328
Lower Grande Ronde below Rondowa	47.0	145	1.0	261	116	928	943	410	6,790	2,988	23,900	990	4.0	7,128	3,136	25,090
Wallowa	31.0	120	1.0	216	96	767	622	4.0	4,478	1,988	15,907	622	4.0	4,478	1,988	15,907
Minam	61.0	230	1.0	414	184	1,472	1,224	4.0	8,813	3,913	31,303	1,224	4.0	8,813	3,913	31,303
Upper Grande Ronde above Rondowa	160.0	500	1.0	900	400	3,197	3,763	4.0	27,094	11,921	95,369	4,666	4.0	33,595	14,782	118,256
Totals	778.5 (steelhead only)				7,510	72,556				146,445	1,380,435				168,719	1,101,559

Source: Oregon Department of Fish and Wildlife.

section). As shown, it is estimated that steelhead and salmon production from the National Forest streams could increase from about 73,000 pounds to about 1,380,000 pounds if full escapement were effected.

State, Federal and tribal agencies are presently investing millions of dollars in projects to provide better escapement. Additional facilities and improvements are in various stages of planning and construction to increase anadromous fish runs. Projects such as barge transportation of smolt, improving passage facilities of dams, and increasing river flows during out-migration are all designed to increase escapement. These efforts have begun to show results with much higher spawning redd counts inventoried during the 1985 spawning season. Fishery biologists are optimistic that anadromous fish runs in the Columbia and Snake Rivers can be restored to near the 1950 level.

In addition to production increases resulting from escapement of migratory fish past the dams, it is estimated that 221,000 pounds of steelhead and salmon can be produced from Forest streams through habitat enhancement work. This is well above the final RPA goal of 144,000 pounds. Fish habitat improvement often involves increasing vegetation along streams. This often benefits other wildlife as well as fish.

Livestock

In FY 1984 the Forest provided seasonal grazing for 21,900 cattle and 16,700 sheep. These livestock are owned by some 144 permittees who use the 164 established grazing allotments. For this grazing, permittees paid over $130,000. Total permitted use has averaged some 186,000 AUM's while actual use has averaged 153,600 AUM's over the 1982-1984 period. Seasons of use vary from mid-winter months in portions of the Hells Canyon National Recreation Area to late summer months at higher elevation allotments.

There is a desire on the part of the local livestock industry to maintain and increase National Forest grazing. This coincides with RPA projections of increases in our National population and in our total demand for beef. Complicating the matter are concerns about streamside damage to soil, vegetation and water quality from livestock grazing, and the cost of improvements needed to alleviate such concerns.

Particular problems occur in the steep canyon areas where cattle tend to concentrate along stream bottoms, overutilizing the forage and damaging other riparian vegetation. This situation has improved in recent years as Forest Service managers and permittees have worked together to find ways to alleviate it. However, problem areas persist and some 15 allotments are recognized as having need for improvement measures or grazing adjustments.

Hells Canyon presents particular problems in that the rugged terrain, suitable only for sheep grazing, has proven to be unprofitable for several operators in recent years. Future use apparently depends on an upturn in market conditions.

Noxious weeds are a continuing problem on the Forest and on adjacent lands. Control of these pests requires close cooperation between the Forest Service, county governments and private landowners.

Timber

About 1.09 million acres (46 percent of the Forest) are classified as suitable forest land. This is land at least 10 percent forested which is available for timber management activities and which can be managed with existing technology. See Table 2-8 for a summary of the forest land use classification and a comparison with the previous land classification. (For additional discussion see DEIS Appendix E.)

The great majority of the Forest's receipts accrue from timber sales. Local governments rely on their returned share of these Forest receipts for a large part of their budgets for roads and schools. Roughly one-half of the timber processed locally comes from the Wallowa-Whitman National Forest, making the Forest responsible for many jobs in the local communities. Personal use of fuelwood is reducing a backlog of dead and down material left from timber sales and the mountain pine beetle epidemic. It appears that by the end of the century, fuelwood will mainly be available from thinning live trees in overstocked stands and from logging residue.

Based on aerial survey data, the mountain pine beetle and Douglas-fir tussock moth killed in exçess of 66 million board feet annually in the 1970's. They have now returned to endemic levels but the western spruce budworm, larch casebearer and spruce bark beetles are causing serious losses. The mountain pine beetle outbreak on the west side of the Forest has collapsed because most of the susceptible host has been killed. Salvage of the dead and the dying pine timber is continuing in accessible areas under a multi-year rehabilitation program for the outbreak area.

The Forest's annual programmed timber harvest is based on the 1962 Timber Management Plan as amended. A significant outcome of the analysis of timber production potential was the realization that recent timber harvest levels under this timber plan were higher than the nondeclining evenflow level, given land management direction from the unit plans. This was caused by a variety of factors. The more significant of these were: (1) the failure of the timber management plan to fully* recognize unit plan direction, (2) accelerated harvest of lodgepole pine in addition to the evenflow of other species, (3) losses due to insect epidemics, and (4) a more precise (though reduced) estimate of standing timber volume.

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*Amendment No. 7 to the Timber Management Plan accounted for some of the Unit Plan direction by eliminating from the timber base certain dispersed recreation lands--lands from which timber harvest can occur for other resource improvement purposes or to salvage catastrophic losses. These lands are not, therefore, within the regulated timber harvest base. Not accounted for by Amendment No. 7 were the reductions in yields due to provisions for wildlife and other resources which may reduce potential timber yeild by as much as 10 percent or more on some lands.

Table 2-8
LAND USE CLASSIFICATION - COMPARISON OF 1962 TIMBER MANAGEMENT PLAN TO DRAFT FOREST PLAN

Land Category 1/	Forest Plan Total Acres	Forest Plan Idaho Acres	Forest Plan Oregon Acres	1962 TM Plan Acres	Difference Between Forest Plan and 1962 TM Plan 2/
Net National Forest Land	2,349,215	142,534	2,206,681	2,223,600	- 16,919
Water	5,386	631	4,775		
Existing Roads	10,686	102	10,584		
Other Non-forest Land	921,218	90,038	831,180		
Non-forest Land	937,290	90,771	846,519	491,600	+ 354,919
Total Forested Land	1,411,925	51,763	1,360,162	1,732,000	- 368,641
Not Capable (Not Productive 3/)				206,100	
Capable but not Available (Reserved)	231,623	34,388	197,235	130,600	+ 66,635
Available and Capable (Commercial Forest Land)	1,180,302	17,375	1,162,927	1,395,100	- 228,976
Technologically Not Suited	90,230	386	89,844		
Available, Capable, and Tentatively Suitable	1,090,072	16,989	1,073,083	1,395,1000	- 318,820

1/ Current terminology, with terminology of previous plans in parentheses.
2/ Differences noted are between the 1962 TM Plan (8th Amendment) and the Oregon portion of the proposed plan.
3/ Term not used in current planning efforts.

It was intended that upon completion of land management (unit) plans, a new timber management plan would be prepared which would calculate the Forest's allowable harvest levels based on the management direction provided in the unit plans. Due to NFMA direction to undertake a new round of planning including a timber management plan, a timber management plan based on the unit plans was never completed. Therefore, although the Forest has been managed according to direction in the unit plans, the allowable harvest has not reflected all of the direction from those plans.

The maximum implementable level of timber harvest, under a nondeclining evenflow schedule is shown in Table 2-9 along with RPA targets as identified in the Regional Guide. These figures are taken from Alternative B of the DEIS and are not achievable under this plan which is based on Alternative C.

The current RPA timber target is based on data from the 1962 Timber Management Plan, as amended. Therefore it does not accurately reflect the current land base, the current inventory or present timber yield tables. The timber outputs displayed in Table 2-9 include significant amounts of salvage (principally lodgepole pine) and cull material added to the base harvest schedule for green volume.

Table 2-9
RPA TARGETS AND POTENTIAL TIMBER OUTPUTS UNDER NONDECLINING FLOW*
(Million Cubic Feet)

	1986-1990	1991-2000	2001-2010	2011-2020	2021-2030
Sawtimber	31.9	31.9	31.9	31.9	31.9
Roundwood	8.8	7.4	5.8	5.8	5.8
Charge Personal-Use Fuelwood	5.0	5.0	5.0	5.0	5.0
Total	45.7	44.3	42.7	42.7	42.7
RPA Target	41	41	41	41	41

*Projected outputs from Alternative B, Draft Environmental Impact Statement.

Water

The production of water volume is rarely in conflict with other resource uses. Water quality, however, may be affected by other activities and the supply of water during some time periods may fall short of demand. Either of these two occurrences may result in controversy and conflict between users.

During the public participation process, substantial comment was received pertaining to water and watershed management. In most instances respondents were concerned about maintenance or improvement of water quality. Other potential issues which surfaced related to maintenance of streamflows and runoff timing, dam construction, the use of herbicides, and the development of hydropower.

Management concerns emphasized erosion control and the effects of recreational and livestock use on domestic water quality. Other concerns included flood occurrence, water storage and transportation facilities, fuels and fire management, and mining.

The major users of surface water in the planning area are agriculture, industry, municipal supply, and other domestic use. Agriculture is by far the largest user of water with use increasing as more lands come under irrigation. Fish, both resident and anadromous, depend on water quality and quantity.

The cities of Baker and La Grande have Memoranda of Agreement with the Secretary of Agriculture establishing municipal supply watersheds. The Baker City Watershed includes 8,763 acres of National Forest land, providing water for a population near 10,000. The La Grande Municipal Watershed includes 15,500 acres of National Forest land supplying a population of over 11,000.

Both cities experienced water shortages in recent years and now rely on wells to supplement stream flows. Opportunities exist for increased supply if facilities are improved, increased storage is provided, or additional sources are tapped.

Several other communities rely on the Forest for municipal water. Sumpter obtains its water from the McCully Fork of the Powder River, Granite from a spring located on National Forest land, and Union utilizes water from Catherine Creek. In addition, Wallowa and Joseph receive all or part of their domestic water supplies from streams originating on National Forest land.

The City of Halfway possesses a special use permit for use of Leep Springs as a domestic source, although it currently is not using this supply.

The National Forest has 1,462 identified water uses on its most recent water uses inventory. There are 27 Forest Service campgrounds and two picnic areas with piped-in water. Two uses for irrigation (pastures) have been identified. The remaining 1,431 uses are associated with stock watering. The Forest is presently reviewing these uses to determine those which require water rights.

Total water rights exceed total annual runoff on a number of streams across the Forest. Nearly all streams are seasonally overappropriated. The State, which regulates water use, allocates water on a first-come basis with the oldest water rights taking priority over more recent rights.

The Forest has the opportunity to increase the quality of water flowing from National Forest land. There are some water quality problems, such as sediment from poorly located roads, or stream temperature increases due to depleted flows which, while they may be improved, cannot realistically be eliminated in the foreseeable future. The opportunity exists to improve or correct many of the water quality problems caused by ungulate damage in riparian areas, local stream bottom roads, and other areas of reduced watershed condition.

Minerals

The Forest is in the heart of what has been historically the most productive gold/silver region within the State of Oregon. Both lode and placer mines have had sizable production in the past and many are presently being reactivated. In 1942 War Production Board Order L-208 closed all precious metals mines. Increased operating costs and a fixed gold price precluded the reopening of all but a few mines after World War II. Only with the increase in gold and silver prices has the area re-emerged as a focus of mining interest. Currently thousands of lode and placer mining claims exist in the mineral belt of northeastern Oregon and western Idaho. Past and present mineral activity is concentrated in older, pre-Tertiary rocks, usually within and around the margins of intrusives.*

While the timber industry and agriculture comprise the great bulk of the area's basic industry, the considerable undeveloped mineral resource of the region provides a significant potential employment opportunity.

Numerous mining companies are exploring and developing properties in the Forest vicinity. High precious metals prices plus improved mining and metallurgical techniques make many of the old deposits attractive. In addition, exploration in recent years has also been directed toward large-tonnage, low-grade copper-molybdenum deposits. At least two such deposits are currently being explored within the Forest boundaries. (For a description of the numbered mineral areas, see Appendix J of the DEIS.) Figure 2-2 is a map outlining Forest areas in which nonenergy minerals are found.

A continuing concern of Forest managers is mining law compliance. Under existing law the holder of a valid claim may erect structures necessary to work the claim. There have been instances of structures being built, perhaps unknowingly, on invalid claims and later being used solely for purposes unrelated to mining. Abuses of this sort on the Forest have been reduced in recent years. Effort is still underway to correct them.

Forest managers must also be sure that mining does not substantially degrade long-term water quality during operation and that rehabilitation is achieved.

The Forest has not historically been considered favorable for oil and gas exploration. Only recently has there been interest shown in obtaining leases in the vicinity.

Although a few hot springs are known to occur in and near the Forest, there does not presently appear to be a high potential for geothermal resource development. There currently are no geothermal leases or lease applications for lands within the Forest boundaries.

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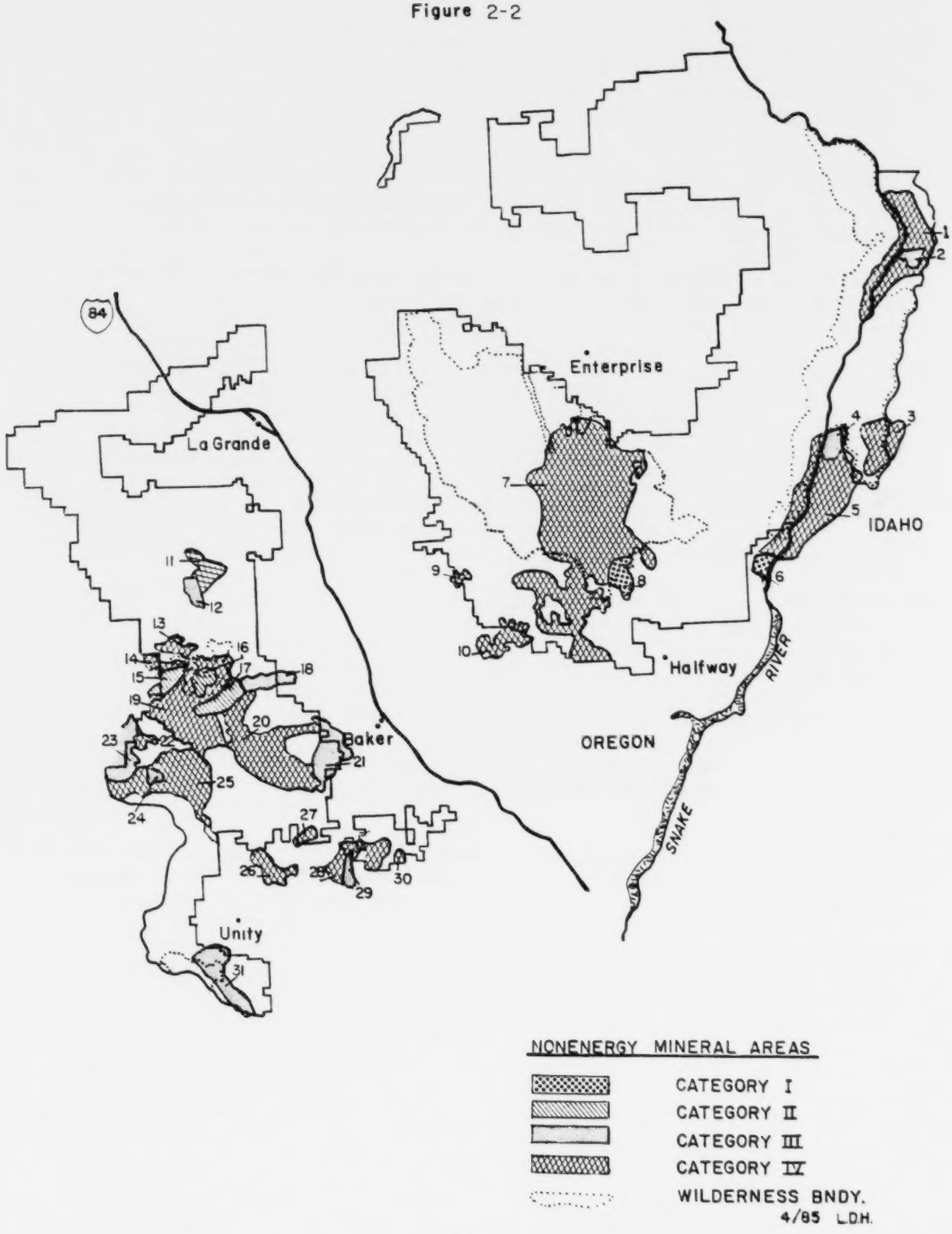
*See glossary

Figure 2-2


84
La Grande
Enterprise
Baker
Halfway
Unity
IDAHO
OREGON
SNAKE
RIVER
1
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9
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30
31
NONENERGY MINERAL AREAS
CATEGORY I
CATEGORY II
CATEGORY III
CATEGORY IV
WILDERNESS BNDY.
4/85 LDH.

A new, possibly extensive, coal field lies near the communities of Flora and Paradise in northern Wallowa County. Lignite seams occur between basalt flows. Most of the coal-bearing layers have been found outside National Forest boundaries. A program of exploratory drilling, sampling, analysis and geologic mapping is necessary before any assessment can be made as to the feasibility of extracting the coal. Given a marketable deposit, environmental concerns of aquifer disruption and loss of topsoil productivity would then be addressed.

Sand, gravel, crushed rock, building stone and limestone occur within the Forest boundaries. These are all low-unit-value materials which must be near transportation routes, and usually the point of consumption, to be utilized. A continuing need for some quantities of these materials can be anticipated, with increased demand during periods of growth. The region has a history of producing large amounts of cement.

Old-Growth Forest

During the past ten years there has been a growing interest in old-growth forest, apparently brought about by an awareness that unaltered old-growth stands are diminishing. The reason most often given for retaining old-growth forest is to meet wildlife needs but the desire apparently goes beyond this. On the Wallowa-Whitman National Forest there are no wildlife species that have been identified as requiring solely old-growth forest, although some species require conditions that are best represented in old-growth stands. People also want old-growth for the recreational enjoyment it provides, for aesthethic and other qualities such as the size and age of its trees. Those opposed to the retention of old-growth conditions cite their concern for the loss of wood production and would prefer that land be converted to rapidly growing timber stands. These conflicting desires are the basis of the old-growth issue. (For further discussion of the issue, see the Regional Guide or Forest Plan DEIS.)

Because the term "old-growth" means different things to different people, any definition is subject to criticism. Old-growth definitions for forest types found on the Wallowa-Whitman are shown in the description of Management Area 15, Section 4 of this document.

At present there are some 173,000 acres on the Wallowa-Whitman that meet the definition of old-growth. These acres are generally well distributed over the Forest. Included are some 10,900 acres in classified wilderness.

Under present land management direction from the Burnt Powder, Grande Ronde and Wallowa Valley Unit Plans, there are 131 specifically defined areas varying in size from 100 to 3,000 acres that are to be managed for old-growth forest. These all lie within the commercial forest land base. This land management allocation totals 73,000 acres. Approximately 28,000 acres currently meet the definition of old-growth. In addition, a minimum of ten percent of lands in the Dispersed Recreation/Timber Management allocation in the Hells Canyon National Recreation Area are to be managed as old-growth and all the forest in the Forage Management allocation, also within the NRA, is to be managed as old-growth. Within Land Management Strategies 6 and 19

of the Desolation Planning Unit, sufficient old-growth is to be retained to ensure viable populations of wildlife species. In certain other land allocations timber cutting is not permitted or is permitted at a very low rate. Therefore old-growth conditions persist in those areas which include the Dispersed Recreation/ Native Vegetation and Forage allocations in the Hells Canyon NRA, the Dispersed Recreation Emphasis (Strategy 5) areas and the Special Management Units in Upper Five Points Creek and on Castle Ridge.

There are still relatively large acreages of old-growth forest available, but options remaining for resolving the issue of how much should be retained are dwindling.

Soils

No individual public issues relating to soils were developed during the planning process. However, soils management was a facet of a number of issues including transportation system management, timber production, minerals, livestock production, and water.

Management concerns center around maintaining soil productivity. Activities which can affect soil productivity include timber harvesting, site preparation for reforestation, fuels treatment, road construction, grazing by domestic livestock and wildlife, some forms of recreational use, and fire. Since soil is a nonrenewable resource, its loss is irretrievable.

Forest soils reflect wide variations in climate, topography, parent materials, vegetation, and the length of time soils have been developing. Since most of the soils have developed from volcanic ash, fine to medium textured soils dominate the Forest.

Subsoils which developed from volcanic rock, sediments and metasedimentary materials have very fine to fine textures. Acreages of coarse textured soils, derived from granodiorite, are found in the central Wallowa Mountains, along the Elkhorn Ridge, and in the Seven Devils Mountains in Idaho. The southern portion of the Forest includes fine textured soils derived from pyroclastic rocks. Numerous localized inclusions and variations in geology and soil type occur across the Forest.

Volcanic ash, deposited as a result of volcanic eruptions on Mount Mazama and Glacier Peak more than 6000 years ago, still influences soils of the Forest. This ash, which is capable of absorbing and holding large quantities of water, has contributed positively to the productivity of most sites where it is found.

Management of the soil resource as a part of overall Forest management is in a state of rapid change. Traditionally, soil management efforts have concentrated on reducing soil losses due to erosion. Strides have been made in controlling losses following timber harvest activities and in reducing erosion from rangelands; however, areas with accelerated erosion persist. Research now indicates that changes in soil structure, particularly those associated with soil compaction, can have long-term effects on productivity

even though soil loss from the site may not occur. Recent efforts on the Forest have been directed toward reducing and mitigating damage to soil structure through improved timber harvest techniques. In some instances this has included ripping previously damaged soils.

In addition to areas compacted by tractor activity, some areas of the Forest suffer from reduced watershed condition. These are primarily areas of accelerated surface or streambank erosion in need of erosion control or streambank stabilization, many resulting from past timber harvest, road construction and grazing activities.

Timber management requires the existence of roads, skid trails, landings, and other facilities which either reduce site productivity or remove land from the productive base. These same activities expose soils to erosive forces and increase the probability of mass soil movement. Through the direction in the Forest Plan and Forest Service Manual, the extent and severity of these impacts will be limited and guidelines are provided for mitigating problems which already exist.

The Regional Guide provides a target of 1,000 acres of soil and water resource improvement annually through 1990 tapering to 600 acres annually by 2030. Since watershed improvement is primarily dependent upon funding and manpower, these levels of accomplishment are feasible. These activities may include erosion control through grass seeding or other means, stabilization of stream banks through the use of structures or establishment of vegetation; obliteration and rehabilitation of unneeded roads or wheel tracks; and mitigation of compacted soils.

Several other management concerns have been expressed although the degree and extent of their impact are unknown. Soil compaction due to grazing by ungulates has been measured in the upper soil layers in numerous areas across the Forest. It is not known how much effect this compaction has on forage production; how long this compaction would last if ungulate traffic were removed; or what the effects are on hydrology, timber production, or wildlife. Concern has also surfaced over the effects of management on soil wettability, soil chemistry, and soil nutrient levels. The answers to these questions must be developed through research.

Threatened, Endangered and Sensitive Species

The Endangered Species Act of 1973 (P. L. 93-205), as amended, declared that Federal agencies shall seek to conserve endangered and threatened species of plants and animals. In order to meet the intent of this direction the Forest Service has established objectives and policies for inventorying the species, determining habitat or environmental needs, and protecting critical habitat and/or conditions necessary to preserve the plants or animals (FSM 2670). Included is direction to protect certain sensitive species to ensure that they do not become threatened or endangered. The U. S. Fish and Wildlife Service, USDI, has primary responsibility for administering the Endangered Species Act. When the Forest Service proposes an activity that may affect a species listed or proposed for listing as threatened or endangered, the Fish and Wildlife Service is consulted.

The threatened, endangered, and sensitive species on the Wallowa-Whitman are listed in Table 2-10.

Due to their numbers, sensitive plants create the greatest source of concern for management. The Forest maintains a record of the known sightings of sensitive plants; trained personnel are developing the capability to predict when and where these plants are likely to occur. Volunteer professional help from universities and private sources has been helpful in preparing this record. The Forest is currently working with Oregon State University in a remote sensing project (earth satellite) which will further this effort. Most of the sensitive plants are also included on a "Special Plant Species" list which was adopted in 1981 by the State of Oregon. The Forest Service and the State cooperate in inventory and protection of the various species. As projects are planned, a check is made to determine if a sensitive plant species is likely to occur at or near a project site. If these plants are known to be in the project area, a biological evaluation is necessary. The results of the evaluation could result in the project being altered or cancelled to protect the species in question. In some cases a biological evaluation can be satisfactorily made only during certain seasons. Therefore it is possible a project could be delayed six months or more. This could be a major inconvenience, especially with proposed mining activities.

Table 2-10
THREATENED, ENDANGERED, AND SENSITIVE SPECIES

List	Species	Status
	Animals	
Endangered	Peregrine Falcon	Several areas on the Forest exist where sightings have occurred.
Threatened	Northern Bald Eagle	One nesting pair, significant wintering populations along several rivers on Forest.
Sensitive	Ferruginous Hawk	Feeding, nesting and rearing occur on Forest in several areas.
	Swainson's Hawk	Same as ferruginous hawk.
	Wolverine	Abundant habitat exists on Forest but sightings are uncommon.

Table 2-10 (continued)
THREATENED, ENDANGERED, AND SENSITIVE SPECIES

List	Species	Status
	Animals	
	Long-billed Curlew	Habitat exists on Forest and scattered sightings have occurred.
	Western Spotted Frog	Habitat exists on Forest, but populations not identified at present.
	Preble's Shrew	Habitat exists on Forest, but populations not identified at present.
	Townsend's Big-Eared Bat	Known to occur within the the Forest but the range and population size are unknown.
	Plants	
Endangered	MacFarlane's Four O'clock	Currently found at three sites in Snake River Canyon.
Threatened	None	
Sensitive	97 species	See FSM 2670, W-W Supp. No. 12. These are species which have occurred in the Federal Register as proposals for classification and are 1) under consideration for official listing as endangered or threatened, 2) are on the official State list, or 3) are recognized by the Regional Forester as requiring special management to prevent the need for their placement on Federal or State lists.

Land Adjustments and Special Uses

Because of the pattern of land ownership within and around the National Forest, there is a constant need for adjustment to improve National Forest administration as well as for the effectiveness of private land management. Most land adjustment occurs through land exchange. At present, the Forest Service is responding to proposals from adjacent landowners and many acres have been exchanged in recent years as a result of these contacts. This has resulted in consolidating ownership of many lands, to the benefit of both parties.

Although most major travel routes have been acquired, there is a continuing program for the purchase of road and trail rights-of-way in order to insure public access to National Forest land.

It is in the public interest to occasionally purchase private lands. The need for such purchases in future years will depend largely on the success of local counties in administering their land use regulations within the Hells Canyon National Recreation Area. Where it proves futile to gain landowner compliance with regulations, purchase of the lands by the Federal Government may be the only recourse. Consolidation of ownership through land exchange will be the primary direction for land adjustment.

The Forest is working with public agencies and private parties to achieve a more efficient pattern of land ownership. The Land Adjustment Plan (Appendix D) serves as a basis for land adjustment.

In addition to providing natural resources and recreation, the National Forest also provides lands for a wide variety of special uses for private and public agencies. Such uses are authorized by special use provisions, mining laws and withdrawal authority of other agencies. By far the most common are those permitted by special use provisions and covered by special use permit. Table 2-11 displays the special uses permitted on the Forest.

These permits are periodically inspected to insure compliance with conditions of use and to evaluate the appropriateness of continuing such use. Permittees pay for the right to use National Forest lands for these purposes. Of these receipts, 25 percent is ultimately returned to the local governments.

Research

The Starkey Experimental Forest and Range occupies 27,051 acres of the Forest, 20 miles west of the city of La Grande. This area is devoted primarily to range and wildlife research purposes and is administered by the Project Leader of the Forest Service Range and Wildlife Laboratory in La Grande. Scientists working at this laboratory are the primary users of the area for research purposes. Research has first priority on the experimental forest. When other uses, such as the occasional sale of timber, do not conflict with research, they are carried out in coordination with the Forest Supervisor and the La Grande District Ranger.

Table 2-11
SUMMARY OF SPECIAL USES - 1985

Uses	Total Cases	Total Miles of Right-of-way	Total Acres Permitted Area
Boat dock & wharf	1	.0	.1
Organization camp	1	.0	2.0
Cabin (recreation)	7	.0	14.1
Recreation residence	43	.0	20.2
Resort	3	.0	65.2
Camp & picnic	2	.0	179.0
Target range	2	.0	39.9
Tramway	1	.0	7.0
Outfitting & guiding	63	.0	.0
Winter sports resort	1	.0	22.5
Ski slope, trail	1	20.1	243.3
Cultivation, hay production	3	.0	25.7
Pasture	27	.0	4,098.2
Non-recreation residence	2	.0	24.0
Range facility	4	.0	40.1
Cemetery	1	.0	1.6
Solid waste disposal area	1	.0	.4
Community residence	3	.0	3.6
Service building	1	.0	.1
Camp (industrial)	1	.0	.2
Fish hatchery	1	.0	.4
Warehouse, storage yard	16	.0	18.2
Weighing station	1	.0	.2
Experimental, demonstration	1	.0	.1
Education center	1	.0	15.0
Airport, beacon	2	1.0	1.4
Class D road permit	13	13.6	14.9
Class E road permit	5	4.4	16.1
Powerline	20	80.3	547.9
Powerplant	1	.0	1.4
Buried powerline	1	1.9	3.2
Antenna system (receiving)	2	1.6	.8
Electronic site	33	.0	10.8
Telephone, telegraph	7	39.4	145.0
Telephone buried cable	4	145.2	57.8
Water transmission	55	233.3	263.5
Dam, reservoir	16	.0	463.6
Water diversion, weir	6	.2	3.5
Well spring, windmill	15	1.0	4.9
Stock water	1	.0	.7
System, supply	4	.3	.9

There is a recognized need to establish tracts of undisturbed land for scientific and educational purposes on National Forest as well as other lands. Such areas, when maintained in an undisturbed state, serve as a baseline for comparison with areas influenced by management. At present, there are four Federal Research Natural Areas (RNA's) established within the Blue Mountain Province which includes the Ochoco, Umatilla, Malheur and Wallowa-Whitman National Forests. There is one on the Wallowa-Whitman, the 990-acre Indian Creek area, about five miles east of the town of Cove in Union County. There is a need for at least 18 more for minimal representation of the identified ecological cells within the province. The potential appears to be primarily on National Forest land. The most suitable sites for 12 of the areas appear to be on the Wallowa-Whitman.

Human Resource Program

The history of this effort on the Forest is a long one, dating back to the days of the Civilian Conservation Corps during the Great Depression. That effort ended with World War II and there was no further involvement on the part of the Forest until the 1960's when various programs were instituted.

Today the Forest numbers in its Human Resource Program (HRP) the Senior Community Services Employment Program (SCSEP), the Youth Conservation Corp (YCC), and the Job Training Partnership Act (JTPA). In various ways these programs attempt to focus the resources of the individual on Forest activities to the benefit of both the Forest and the individual. Recent Forest involvement is summarized in Table 2-12.

Table 2-12
HUMAN RESOURCE PROGRAM ENROLLEE POSITIONS

	1977	1978	1979	1980	1981	1982	1983	1984
SCSEP	7	12	15	16	15	18	18	18
YCC	48	84	32	25	10	24	20	18
YACC	-	60	44	39	23*	-	-	-

* Last year of program

From 1977 through 1981 the Forest operated from one to three YCC camps per year. Some were residential and others were nonresidential. Camps were located at various locations throughout the Forest and in local towns.

Human resource programs fluctuate with the political-economic climate. During periods of high unemployment or the presence of an administration supportive of the programs' philosophy, funding for human resource programs often increases. Since the Forest can provide work in both urban and rural areas, agencies responsible for administering these programs look to the Forest to host them. The only influence the Forest has in securing these programs is that which results from its past performance on similar activities. Ultimately its participation is determined by other government agencies.

Because funding levels change so dramatically, long-term human resource program planning is difficult. Appropriated funds are often used to support human resource programs for such costs as travel, living expenses, tools and equipment. Any time a program is not continuous, management must take time to learn or relearn the administrative processes and gain proficiency in their exercise. Short lead times resulting from the political nature of these programs make the situation more difficult both for starting up the programs and phasing them out. Recruiting and retaining highly qualified work supervisors for uncertain programs is difficult. Effective management is critical because enrollees come from varied cultural backgrounds and require sensitivity on the part of their managers.

There exists on the Forest a cadre of personnel familiar with these types of programs by virtue of their experience. The Forest thus does have the basic ability to accommodate the needs of these programs as they arise.

Energy Management and Utility Corridors

The Forest's main contribution to date has come in the use of lands and water for hydropower generation. Use of dead timber for home heating is important in the Forest vicinity, displacing sizable amounts of more commonly used fuels.

Local wood products firms use wood residue as a source of heat to generate electricity for plant operations. Efforts are underway to use the large amount of cull wood material resulting from the mountain pine beetle infestation to generate electrical power.

Techniques currently being developed include low head and run-of-stream hydroelectric projects. The Forest has numerous reservoirs and ditches that could generate power with minor modifications. One of the main advantages of this type of project is that the water can be utilized for power generation without significantly affecting other uses such as irrigation and recreation. A discussion of the Forest's potential for geothermal, gas, oil and coal resources is contained in the Minerals section hereof.

The Forest plays an important role in energy transmission by providing rights-of-way for power transmission lines. A group of major facilities crosses the Forest between Pendleton and La Grande. Included are an interstate highway, a railway, a major electric transmission line, a petroleum products pipeline and two large natural gas pipelines. An additional electric transmission line is proposed. Additional power facilities cross at various points, making over 160 miles of power transmission rights-of-way on the Forest.

Air Quality

Forest management activities, particularly timber slash burning, can contribute significantly to short-term air quality problems. However, air quality considerations are seldom critical in decisionmaking on the Wallowa-Whitman since slash burning can be adjusted to avoid periods of poor smoke dispersal.

The Forest lies in the Eastern Oregon Intrastate Air Quality Region, the Idaho Intrastate Air Quality Region (No. 62) and the Eastern Washington-Northern Idaho Interstate Air Quality Region No. 63). In accordance with the Clean Air Act (P.L. 88-206) as amended, these regions are classified according to the amount of air degradation that could be permitted. The Eastern Oregon Air Quality Region has been classified Priority 2 (moderate degradation permitted) for suspended particulates and Priority 3 (fairly heavy degradation permitted) for other pollutants. The two Idaho regions are classed as Priority 1 (virtually no degradation permitted) for particulates. However, Region 62 is classed Priority 1 for pollutants whereas Region 63 is classed as Priority 3. A further complication is the fact that the Eagle Cap and Hells Canyon Wilderness areas have each been classified as Priority 1 for both measures, regardless of the air quality region in which they lie.

Despite the complex jurisdictions within which the Forest lies, it is unlikely that air quality will become an issue in the near future as long as laws controlling industrial activities outside the Forest are enforced.

For more discussion on this subject as it relates to the Wallowa-Whitman National Forest, see Air Quality, Hells Canyon National Recreation Area USDA, Forest Service, 1980; the Regional Guide; and the accompanying Forest Plan DEIS.

Fire and Fuels Management

The changes caused by humans have had a significant influence on the role of fire. Fire exclusion policies since the turn of the century have resulted in changes in vegetation which have, in turn, caused an increase in fire-susceptible species in areas of high fire occurrence. The general timber stand conditions are changing from seral to climax. (True firs are increasing while ponderosa pine and western larch are decreasing). As the stands move toward climax conditions more ground and ladder fuels exist, increasing the probability of high intensity fires. True fir and mixed conifer stands will generally be killed or damaged even by low intensity fires. Timber management activities may add dry fuel accumulations to these stands, increasing the risk that they cannot be managed to maturity. Treatment of these accumulations reduces the hazard.

More than 70 percent of the wildfires that occurred from 1970 to 1983 were started by lightning. Management activities will not have a major impact on reducing these ignitions, although we can affect the fuel conditions in which they burn. Lightning fires typically occur from mid-June through mid-August, normally burning at low intensities except for exceptionally dry years when extreme burning conditions occur.

A major management concern is whether treatment of precommercial thinning slash is advisable in previously unmanaged stands, given the tree size, high fuel treatment costs and a species composition shift to less fire-tolerant species. Besides the option of treating the slash, management must also consider the possibilities of eliminating precommercial thinning altogether, or living with the increased hazard for five to ten years. Precommercial thinning at smaller tree sizes may help mitigate this hazard.

Fire management area plans have been approved for the Eagle Cap and Hells Canyon Wildernesses which allow ignitions from lightning to burn as prescribed fires. An approved plan for the Elkhorn Fire Management Area permits lightning fires to burn as prescribed fire within the Baldy Creek portion of the North Fork John Day Wilderness. In other parts of the Elkhorn Fire Management Area (essentially the remainder of the Elkhorn Mountains) planned ignitions as well as lightning-caused fires may be allowed to burn as prescribed fires in order to achieve resource objectives.

The addition of 147,666 acres of Idaho lands to the HCNRA under Wallowa-Whitman administration has resulted in a proportional increase in reportable fires that had been charged to the Nezperce and Payette National Forests in years past.

The La Grande Fire Center serves as a shared resource base for the Wallowa-Whitman, Malheur and Umatilla Forests as well as providing assistance to the Nezperce and Payette Forests in Idaho. A retardant tanker, two interagency crews and a Regional fire cache are all based at La Grande; these forces are an integral part of the Wallowa-Whitman suppression forces.

Fuel reduction programs have increased, along with timber harvest and precommercial thinning over the past ten years. Prescribed burning offers excellent opportunities for fuel reduction on the Wallowa-Whitman, but it remains an unrealized potential. Prescribed burning increased from 800 acres in 1978 to 3,500 acres recently and has the potential for substantially larger acreages in the future. It is being used increasingly for the furtherance of natural regeneration following timber harvests, as well as for range and wildlife habitat improvement.

Transportation

Transportation facilities for the Forest include 9,300 miles of road (6,280 miles of which are open for use) 1,750 miles of trail and five landing strips. In addition, the Snake River provides 68 miles of river that are a part of the transportation network. The transportation system is established and is likely, with certain construction and reconstruction projects, to be satisfactory for serving most future management scenarios. Exceptions are the relatively few undeveloped areas (not including wilderness) that will require additional roads if they are to be managed for timber production.

The present trail system primarily serves the four wilderness areas, unroaded areas in the Hells Canyon National Recreation Area and the Elkhorn Range. Whereas the trails once served many administrative purposes, there is now management concern that the trail system needs to be brought more in line with recreation needs. The Elkhorn Crest Trail (Trail No. 1611); the Nee Mee Poo Trail (Trail No 1727); and the Snake River Trail (Trail No. 102) are all National Recreational Trails.

Problems associated with the trail system frequently arise because the trail was poorly located -- resulting in problems with slides, washouts, and mud bogs. Such trails cannot be maintained effectively and are placed on the capital investment program on a Forest priority basis for construction or

reconstruction. Setbacks also occur due to funding limitations which can ultimately turn maintenance work into reconstruction. Many trails on the Forest have no legal access to trailheads because the roads leading to the trailheads are on private land with no right-of-way.*

Of all the various transportation facilities, roads usually have the most significant positive and negative impacts. Additional road construction in unroaded areas, and the number of miles of roads that are open to unrestricted public use, have been identified as issues to be dealt with in the Forest Plan. A brief history of the road system on the Wallowa-Whitman is helpful in understanding the current situation.

Much of the National Forest was logged by railroad in the early part of the 20th century, but since the 1930's roads have become the primary method of accessing timberlands. Although some roads were built in connection with mining activities, timber harvesting was the reason behind construction of the large majority of the existing roads on the Forest. Most roads were built to remove timber, provide for other uses such as recreation and fire access, and to establish a basic system that could be used for future management activities.

By the end of the 1960's, most of the basic road system had been constructed into the Forest's timbered areas. The emphasis then began shifting from accessing new areas to reconstructing older roads to meet more stringent environmental concerns; to serve an increasing public recreation traffic; and to better meet the needs of different, and sometimes larger, logging equipment. By the mid-1970's, construction of new roads on the Forest was averaging 100 miles per year, but reconstruction was averaging about 200 miles per year. Most reconstruction was to improve roads which had been built 20-40 years before, and consisted of upgrading to higher standards for reasons of safety, reduced maintenance, reduced timber haul costs, and to a large extent to extend the logging season. Logging on the Wallowa-Whitman is limited to a short, dry summer period, plus a few areas where winter logging is feasible, but improved roads (particularly placing rock surfacing on the roads) can extend that season significantly. This extension of the logging season was considered to be beneficial to the local economy by allowing a longer period of employment.

As the 1970's drew to a close, the public and the Forest Service became increasingly concerned about the high cost of road construction and reconstruction activities. Standards were reanalyzed and new guidelines developed which were much more flexible than had been the case. The Forest Service land managers began to look much more closely at the benefits and the costs associated with roads, and written objectives were used to document the minimum criteria for which roads were to be designed. As a result of this increased cost-consciousness, both construction and reconstruction were reduced and brought in line with actual needs. The effects of these changes are shown in Table 2-13, where the cost of construction and reconstruction shows a significant drop in 1982 and 1983.

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*See the Forest Trail Management Plan for more complete information.

Haul and maintenance appraisal allowances have approximately doubled over the last ten-year period. There are many reasons for this. Haul costs have gone up because of increases in fuel costs and other vehicle-related costs. Maintenance costs have risen because of increased costs for oil used in dust abatement. There is also some slight increase in haul and maintenance costs due to decreases in reconstruction expenditures. As the condition of the road system deteriorates, more and more funds will need to be spent for road maintenance.

In addition to the costs associated with timber road construction, haul, and maintenance, the Forest Service incurs costs associated with maintaining the transportation system for public use and for administrative purposes. These maintenance costs average approximately $900,000 per year for roads and $150,000 per year for trails.

Reductions in the cost of road construction were not made without impact. Many of the decisions on limited road access were based on strict control of use, including public access, to allow roads to be built for single purposes only and to be closed to all uses during long periods between projects.

Table 2-13
TIMBER TRANSPORTATION COSTS REFLECTED IN LOWER STUMPAGE VALUES
(Figures Shown in 1982 Dollars)

	Haul and Road Maintenance 1/	Purchaser Credits for Road Construction and Reconstruction 2/
1983	$7,162,900	$2,720,800
1982	7,130,400	2,726,600
1981	9,447,700	5,913,300
1980	6,455,100	3,851,900
1979	8,572,600	6,465,600
1978	6,736,100	4,691,700
1977	7,515,900	2,546,300
1976	4,798,300	3,694,200
1975	5,927,200	6,186,500
1974	3,351,700	3,316,300
1973	5,592,500	4,627,200
1972	3,931,300	4,712,400
1979-1983 Average	7,753,700	4,335,600

1/ The costs of hauling timber and of maintaining Forest system roads over which the timber is hauled.
2/ The cost of road work necessary to harvest the timber for which the timber purchaser pays (as a payment in kind) in partial payment for the timber.

Although placing restrictions on access is considered in a negative light by many users, there are others who favor such actions. Those recreationists who favor more solitude, less crowding, and more primitive conditions in the National Forests favor reduced access and lower standard roads. Wildlife managers are also faced with contradictory feelings regarding access. While roads allow better dispersal of hunters and easier harvesting of game, they can also reduce the quality of the habitat as the impact of users increases.

To deal with this problem, the Forest Service and the State of Oregon (Department of Fish and Wildlife) have been involved in cooperative efforts aimed at balancing the number of open and closed roads based on habitat and hunter needs. Many areas of the Forest have roads that are closed either seasonally or year-round in an effort to deal with this situation.

In an effort to provide some consistency across the Forest in dealing with road closures, the Wallowa-Whitman developed a general guideline in the late 1970's which was aimed at managing for an open road density of no more than 2.5 miles per square mile in roaded areas of the Forest. This guideline was intended to provide some balance between the needs of those wanting roads closed and those wanting more open roads (such as fuelwood cutters, berry pickers, hunters, and others).

Roads which are located too close to streams can also be contributors of stream sedimentation. Indications are that much of the sediment from forest lands that reaches stream channels originates on roads. Many miles of roads on the Wallowa-Whitman are located adjacent to streams, as these "water grades" were a natural location as access was spreading into the Forest. Many of these streamside roads have been closed during timber sales and other project work over the years, but many more still exist. Most of the roads served only short, local purposes (spur roads), and as such can be closed without much impact. However, several major roads also parallel streams, and the cost of closing these or constructing new roads in their place can be prohibitive. Therefore these major roads are usually left in place and their effects mitigated somewhat by using improved drainage and reducing surface erosion by paving or other methods.

The Forest recently completed an inventory of all roads that exist (including "wheel tracks") so that management decisions can be made on which roads should be retained as part of the permanent system and which can be closed off and returned to resource production. Table 2-14 shows the present condition class of the roads on the Forest.

While Forest recreation users once favored more roads because of the access they provided to the Forest, some now see roads as degrading their recreation experience. Wood gathering, wildlife habitat, aesthetics and hunting are just some of the many Forest considerations affected by roads -- positively or negatively, depending on personal values.

The Wallowa-Whitman National Forest Development Transportation Plan provides the basis for administering the road system. This plan consists of many individual documents ranging from basic data such as inventories and maps to more detailed information which document management decisions.

Included in the Forest Development Transportation Plan are road management objectives for each road on the Forest. These objectives are identified through project-level environmental analyses or other interdisciplinary, objective-setting processes. The objectives include road standards and maintenance needs and they determine whether a road will be closed or left open for the rest of the Forest Transportation Development Plan. Annual maintenance plans, road closure plans and long-range capital investment plans all stem from these road management objectives.

Table 2-14
CURRENT TRANSPORTATION SYSTEM
(Miles of Roads)

	Arterial	Collector	Local	Total
Primitive (wheel track)	9	90	2,651	2,750
Graded, Drained, Unsurfaced	180	830	4,110	5,120
Graded, Drained, Surfaced	178	593	525	1,296
Paved	118	11	9	138
Total on Forest	485	1,524	7,295	9,304
National Forest Roads Outside Forest Boundary	47	99	136	282

Cultural Resources

The cultural resource program was developed as a result of public interest in protection of nonrenewable National heritage resources. In the Pacific Northwest Region the program is a formal effort to organize the stewardship of the extensive, nonurban cultural heritage resource base (Wildesen 1980:1). The management of cultural resources benefits the public by protecting and providing knowledge of past lifeways. Public participation in the form of visitor days has not been measured but some part of recreation visitation relates to heritage sites.

The cultural resource base of the Forest includes a diverse range of historic and prehistoric artifacts and sites. These include 1) historic cabins, trails, mines and related flumes, adits, ditches and other structures, railroad grades, immigrant roads, mills and homesteads; 2) historic Forest Service structures including guard stations, lookout towers, corrals, camps, administrative centers, and CCC campgrounds and buildings; 3) prehistoric (Native American) campsites, villages, graves, quarries, workshops, trails, caves, shelters and religious sites. All of these have historic and cultural value to the general public as well as research value for the scientific community.

One important cultural feature on the Forest is the Blue Mountain segment of the Oregon Trail. This trail, which spans the 2000 miles from Independence, Missouri to Oregon City, Oregon, contributed significantly to the settlement of the Pacific Northwest during the period 1841-1848. It was designated as a National Historic Trail in 1970.

The Blue Mountain Segment of the trail is 16 miles in length, of which six miles are on National Forest lands with the remainder being on private lands. This segment contains some of the best remaining examples of intact trail. The Forest is the lead agency for managing this segment and has developed a management plan to assure that its historic value is preserved.

Key concepts of cultural resource management are the inventory and evaluation of all resources. The major goals are the protection and enhancement of all eligible resources for the advancement of public knowledge and enjoyment. Cultural resource management is guided by statutes and their implementing regulations as well as Forest Service policy expressed in the Forest Service manuals. The Wallowa-Whitman employs two full-time archaeologists, one of whom directs the Forest program and one who works primarily in the Hells Canyon National Recreation Area. Cultural resource technicians are assigned to each Ranger District and spend a part of their time in this capacity.

An overview of historical and archaeological resources for the Forest (excluding Hells Canyon NRA) was completed in 1978. The Hells Canyon NRA historical overview was also completed in 1978 while the archaeological overview is underway.

Since the completion of the overviews, some 800,000 acres on the Forest have been sampled for cultural resources (through 1984). Over 4,400 cultural resource sites were found and recorded during this process.

Law Enforcement

Compliance with non-Federal statutes on the Forest is the responsibility of State and local government officials. These violations cover a wide range including speeding and exceeding gross vehicle weight limitations, game violations, cannabis cultivation, and assault. Non-Federal law enforcement officials are precluded from enforcing Federal law, however. Federal and non-Federal officials therefore exchange information and assistance.

There is one full-time Federal law enforcement official (Special Agent) on the Forest. Three other Forest Service employees are Law Enforcement Officers, having received training at the Federal Law Enforcement Training Academy. Twenty-eight others have successfully completed training that qualifies them to issue notices of violation.

Timber theft and recreation-related violations comprise the great bulk of Federal law enforcement activity on the Forest. To date, the timber theft problem is basically in fuelwood, posts and poles. Good timber sale

contract administration will be continued to insure that timber harvests are conducted properly and that true value is returned to the government. Care must also be taken to insure that laws governing log export are followed.

Illegal outfitter guides are a major concern on the Forest. They pay no permit fees, carry no insurance and thus are able to undercut the fees charged by legitimate operators. The insurance required of legitimate operators affords protection not only to the recreationists and the operator but also to the United States Government. Prosecution of these cases is difficult because participants are usually uncooperative, having established a friendship with the outfitter during the outing. The normal process involves booking and completing a trip with the outfitter by law enforcement personnel, which involves expenditure of Forest Service funds. After a successful prosecution, fines are returned to the U. S. Treasury General Fund.

Other Federal concerns include unauthorized use of range, mining claim violations and archaeological trespass.

RESOURCE SUPPLY AND DEMAND PROJECTIONS

This section summarizes anticipated supply and demand conditions for Forest goods and services for the RPA time period. The great bulk of the Forest outputs and activities identified in the RPA program are intermediate in nature--they do not represent final outputs. To speak of supply-demand relationships for precommercial thinning or miles of road constructed, for instance, would be inappropriate. The appropriate consideration in the former case is sawtimber production, in the latter instant, roaded versus nonroaded recreation. Precommercial thinning, road construction, local area impacts, and so on are effects and are, therefore, not discussed here.

As used in this section of the document, "demand" is used to identify a particular point or instant on a demand schedule. As such, it reflects an intersection at a particular point in time between a demand schedule (a list of willingness-to-pay values for various levels of offerings) and a supply schedule (a list of volumes the seller is willing-to-offer at various prices).

Table 2-15 depicts those intersection points over time for those Forest outputs for which such a display is meaningful. As such, they assume a continuation into the future of those factors which would provide viability for the respective enterprises. In the case of livestock grazing, for instance, the figures assume continued population growth in the United States, a certain level of red meat consumption per capita, certain levels of imports and exports, certain cost levels for the goods and services used in the production of red meat, and so on. The projections, like any projections, are therefore expected to be less accurate in the distant future than in the near future.

Table 2-15
SUMMARY OF PROJECTED SUPPLY AND ANTICIPATED DEMAND

	1986 - 1990	1991 - 2000	2001 - 2010	2011 - 2020	2021 - 2030
Recreation					
Developed Recreation					
Including Visitor Information Service (MRVD's)					
Projected Supply					
Current Direction	587	595	603	610	618
Maximum Developed Recreation 1/	661	661	661	661	661
Forest Plan	661	661	661	661	661
Anticipated Demand 2/	399	464	523	572	635
Dispersed Recreation Including Wildlife and Fish Use (MRVD's)					
Projected Supply					
Current Direction	7,104	7,417	7,658	7,658	7,658
Maximum Dispersed Recreation 3/	7,149	7,533	7,810	7,810	7,810
Forest Plan	7,034	7,222	7,342	7,342	7,342
Anticipated Demand 2/	1,337	1,472	1,698	1,898	2,033
Projected Supply of Roaded Recreation 4/					
Current Direction	5,904	6,388	6,748	6,748	6,748
Maximum Roaded Recreation 3/	5,904	6,567	6,996	6,996	6,996
Forest Plan	5,831	6,199	6,444	6,444	6,444
Anticipated Demand 2/	742	811	1,002	1,165	1,261
Projected Supply of Nonroaded Recreation 4/					
Current Direction	1,200	1,029	910	910	910
Maximum Nonroaded Recreation 5/	1,227	1,112	1,035	1,035	1,035
Forest Plan	1,203	1,023	898	898	898
Anticipated Demand 2/	595	661	696	733	772
Timber					
Sawtimber (MMBF)					
Projected Supply					
Current Direction	139	142	151	133	139
Maximum Timber Benchmark	193	192	189	189	185
Forest Plan	143	137	156	140	137
Anticipated Demand 6/	250	250	250	250	250
Roundwood (MMCF)					
Projected Supply					
Current Direction	7.8	6.5	5.2	5.2	5.2
Maximum Timber Benchmark	10.9	9.1	7.2	7.2	7.2
Forest Plan	7.8	6.5	5.2	5.2	5.2
Anticipated Demand 7/	12	12	12	12	12
Livestock Grazing (MAUM's)					
Projected Supply					
Current Direction	186	186	186	186	186
Maximum Livestock Benchmark	227	227	227	227	227
Forest Plan	207	207	207	207	207
Anticipated Demand	227	227	227	227	227

1/ All alternatives except A, which is a budget-constrained alternative.
2/ Based on recent historical experience, OBERS population projections for the State of Oregon, and Forest recreational opportunities.
3/ Alternative B.
4/ Inclusive of WFUD's and recreational experience occurring in wilderness.
5/ Alternative E.
6/ Based on mill capacity depicted on pp. 25 and 53 of James O. Howard's Oregon's Forest Products Industry: 1982, Resource Bulletin PNW-118, October 1984; USDA Forest Service. Projections of demand entail projections of a myriad of interconnected factors--some of which can reasonably be estimated (population, for instance) and some of which cannot (technological breakthrough, shifts in appraisal methods, etc.). It is reasonable to assume that installed mill capacity could be maintained for 2 decades, and that mill capacity beyond that time would be sufficient to process Forest offerings.
7/ Anticipated demand levels are basically an expression of mill capacity continued into the future. Arguments might be made that population pressures would tend to increase overall National demand, assuming a relatively stable price structures. No increase was shown however because of the opportunities available to substitute other products for wood and because, as an expression of local demand, expanded mill capacity would be contrary [illegible] when raw material supply levels are not expected to increase.

INFORMATION NEEDS

This section identifies Forest research needs. The listing is not intended to be exclusive or exhaustive and may change as conditions indicate.

Program	Need
Wildlife	Develop site specific animal unit equivalencies for deer, elk and livestock.
	Determine responses of deer and elk to intensive Forest management practices.
	Determine elk and deer responses to varying traffic levels on Forest roads.
	Determine the short and the long-term effects of intensive timber management activities on: 1. Each class of raptors 2. Pine martens 3. Forest owls
	Determine the short and long-term effects on various winter range plant communities in the Imnaha, the Grande Ronde, and the Snake River Canyon areas from use of prescribed fire with followup aerial seeding.
Timber	Fertilization Study. Only one study exists to support fertilization on the Wallowa-Whitman and it is only applicable to ponderosa pine sites. We need a study on growth response to fertilization in the mixed conifer and grand fir sites which make up a major portion of our community types.
	Prognosis Variant for the Blue Mountains. We have access to an Eastern Oregon/Washington variant developed by the University of Idaho but it does not include height growth predictive equations from local data or local plant associations. We need a Blue Mountain variant based on local diameter and height growth data and local plant associations.
	Develop efficient methods for achieving regeneration within five years. Includes consideration of all non-lodgepole stands. Some particular problems include those encountered on south and west slope ponderosa pine sites and sites with heavy pinegrass cover of steep slopes where mechanical site prep is impractical.

Program	Need
Soils	Long-term effects of soil compaction.
Protection	Determine ways of incorporating integrated pest management research into future planning efforts e.g., effects of tree thinning on spruce budworm populations; effects of management on insect predators such as birds and ants.

Chapter 3

RESPONSE TO ISSUES, CONCERNS AND OPPORTUNITIES

OVERVIEW

A major step in the development of this plan was the identification of issues and concerns related to management of the Forest. Through a scoping process* nine primary issues and concerns were identified. In this section these issues are summarized and a brief description of their disposition in this proposed plan is provided. The reader is encouraged to read Chapter I and Appendix A of the Draft Environmental Impact Statement for a more detailed description of the issues and concerns. The issues are listed as follows:

Transportation System
Timber Production
Local Economy
Management of Nonwilderness Roadless Areas
Old-Growth Tree Stands
Wildlife Habitat: Deer and Elk
Recreation Diversity
Livestock Production
Minerals

TRANSPORTATION SYSTEM

The public concerns varied with this issue with many people expressing that there were too many roads and an excessive number open to vehicular traffic. However, many felt otherwise, believing that roads should be provided into presently undeveloped areas for recreational access and fuelwood cutting. Closures of roads, while apparently popular with many Forest users, also have many critics as evidenced by the public controversy over the Forest Travel Plan in 1984.

This plan responds to the issue by providing a variety of conditions, some of which should satisfy every Forest visitor. Some 420,000 acres of roadless area are to remain undeveloped except for the "jeep trails" that are now present. These roads will continue to provide limited access to motor vehicles as determined on a year-to-year basis through the Forest Travel Management Plan.

*See glossary

The plan provides for 115,000 acres of Management Area 3 on summer ranges. This limits open road mileage to 1.5 miles per square mile. These are generally areas where road mileage is currently low and which are important summer big-game habitat.

The open road density of the remainder of the Forest outside wilderness is limited to 2.5 miles per square mile. Where current density exceeds this amount, it is intended that the desired density will usually be achieved over time as roads are closed following future timber harvests.

The standards and guidelines are found in Chapter 4. They provide the overall goals and direction for transportation planning and management on the Forest.

The trail system will be managed with emphasis on recreational use within Management Area 6, wilderness and the Hells Canyon National Recreation Area.

TIMBER PRODUCTION

This issue relates primarily to (1) concern for maintaining or increasing levels of timber production from the National Forest and (2) interest in maintaining relatively high levels of species, other than lodgepole pine, from which lumber can be sawn or plywood veneer can be peeled (sawtimber).

The sustainable level of timber production was determined through a series of steps:

1. Identification of available, capable and suitable timber land.

2. Development of timber yield tables for existing timber stands and future stands.

3. Allocation of lands to various management areas considering the number of possible uses for those lands and the compromises involved.

4. Calculation of timber harvest levels from lands having a scheduled timber harvest.

The plan schedules timber harvest on 831,700 acres which includes 76 percent of all lands identified as available, capable, and suitable for timber production. From these acres timber harvests are planned averaging 41.1 million cubic feet (143 million board feet) annually during the first decade of implementation and an average of 38.8 million cubic feet (142 million board feet) annually during the succeeding four decades.

Compared to recent levels, this plan will achieve approximately 95 percent of the total volume (all species and materials) and 83 percent of the sawtimber volume in the first decade. In the second decade the sawtimber volume slips to 76 percent of recent levels. By the third decade, 100 percent of recent levels of sawtimber production is achieved and 89 percent of total volumes.

While these amounts are lower than recent levels, which were established by the 1962 Timber Management Plan as amended, they are somewhat higher than the amount suggested by the most recent land management plans (unit plans). (See Alternative A, the Present Situation Alternative, of the Draft Environmental Impact Statement.)

Under this plan the Forest will harvest lodgepole pine at a more aggressive rate. This will allow utilization of wood fiber from many stands which have reached maturity and are susceptible to mountain pine beetle attack or have already been attacked. These stands will be brought under management with the intent of preventing future widespread losses from insect infestation as occurred in the late 1970's and at other times in history.

MANAGEMENT OF UNDEVELOPED AREAS

The issue has to do with how much roadless area and which of the inventoried roadless areas should be retained in an undeveloped state. Of the 468,000 acres of inventoried roadless areas, 334,000 acres will remain undeveloped with this plan. This includes Management Area 6, wild rivers, research natural areas, and several management areas within the Hells Canyon National Recreation Area. Those areas that will remain roadless include most of the Twin Mountain roadless area (in the Elkhorn Mountain Range) and portions of several roadless areas which surround the Eagle Cap Wilderness. In addition, approximately 25,000 roadless acres are likely to remain unroaded due to economic conditions for the next 15 years even though they are allocated to management areas that permit development. This includes major portions of the Tope Creek, Joseph Canyon and Dead Horse roadless areas.

Of the 107,000 forested acres of roadless area outside the Hells Canyon National Recreation Area, 74 percent are considered technically or economically unsuited for timber production.

LOCAL ECONOMY

Employment and receipts generated by National Forest uses and products are important to local economies. This issue is closely related to the timber production issue since timber production has greater influence on the local economy than any other National Forest resource.

The indicators used to evaluate the effects of Forest management on the local economy are jobs, personal income and payments to counties. It is estimated that during the first decade of implementation this plan will provide Forest-related jobs at 99 percent of recent historical levels (1979-1983). Personal income will drop to 86 percent and payments to counties will increase to 121 percent of recent historical levels.

RECREATION DIVERSITY

An issue identified in the planning process had to do with what mix of Forest conditions will provide the optimum recreation opportunity. This requires a variety of conditions.

Primitive recreation opportunities, found in wilderness and some portions of the Hells Canyon National Recreation Area, will remain unchanged and are likely to exceed demand for at least 50 years. Semiprimitive nonmotorized capacity will be reduced by 58 percent outside of wilderness and will be short of demand by an estimated 29,000 visitor days by year 2030. Semi-primitive motorized recreation opportunities will be reduced by 58 percent and will be short of demand by an estimated 141,000 visitor days by 2030. This shortfall may result in some Forest users recreating elsewhere or changing their recreation habits. Since these changes will occur gradually over a long period of time it is expected that most users will adapt to different recreation opportunities. For this reason it is assumed that most of this shortfall will be met by excess capacity in roaded areas. Roaded recreation opportunities will increase by 13 percent and will continue to exceed demand for the foreseeable future.

Developed recreation opportunities will increase by 13 percent and will exceed demand in 2025 by 18 percent. This increase in supply is due to development of sites in the Hells Canyon National Recreation Area.

LIVESTOCK GRAZING

The Forest provides important forage for livestock grazing for 144 permittees. Maintaining a level of grazing is an important issue for these ranchers and an important factor in the local economy.

The analysis showed that with cost-efficient investments and stocking of several presently vacant allotments, it will be possible to increase the grazing level some 12 percent from the 1984 (186,000 AUM's) permitted level. The actual level will be determined through individual allotment environmental analyses. Current livestock economic conditions indicate that it may be difficult to achieve the plan levels of 207,000 AUM's. For example, of the permitted 186,000 AUM's in 1984, only 146,000 were actually used.

OLD-GROWTH TREE STANDS

Maintaining some amount of old-growth trees is important for recreation values and wildlife habitat. Retaining old-growth forests is controversial since it affects the timber production levels of the Forest.

Of the 173,000 acres of old-growth timber currently in existence, nearly 160,000 acres will be retained. This includes old-growth within wilderness and other allocations which preclude scheduled timber harvest and unsuited lands. It is provided in groves throughout the Forest in such a manner as to provide mature and overmature timber within no more than three miles from any point in the Forest.

MINERALS

The Forest contains important mineralized areas as evidenced by numerous mines and claims. Approximately 194,000 acres with mineral potential have

been closed to mineral entry by wilderness or Hells Canyon National Recreation Area legislation. The amount that remains open to unrestricted exploration and mining is an important issue.

Of the 229,400 acres of known mineral potential that are not closed to further entry, 195,000 (85 percent) are available for mineral entry with only normal restrictions. The remaining 34,400 acres are all available but lie within undeveloped areas or areas with special environmental constraints which may make exploration more difficult.

WILDLIFE HABITAT: DEER AND ELK

The level of deer and elk habitat that should be provided on the Wallowa-Whitman is an important recreational as well as economic issue. The issue has to do with the amount of timber land where deer and elk habitat management will be emphasized.

Outside of the Hells Canyon National Recreation Area, big-game habitat will be emphasized on winter ranges totalling 350,000 acres with an additional 175,000 acres managed to provide near-optimum summer range. Allocation of forage to big game will provide for approximately 100 percent of the National Forest contribution to the State's big-game objective levels.

Chapter 4

FOREST MANAGEMENT DIRECTION

OVERVIEW

This Forest Plan is based on the proposed action (Alternative C) described in the Wallowa-Whitman National Forest Plan Environmental Impact Statement. The goals and objectives of that alternative are the basis for the direction described in this chapter. The distribution of management areas across the Forest can be seen on the Alternative C map.

FOREST MANAGEMENT GOALS

The goals for the Wallowa-Whitman National Forest by resource area are:

Human

To provide all persons equal opportunity regardless of race, color, creed, sex, marital status, age, handicap, religion, or National origin.

Cultural

To provide for the identification, protection, and preservation of prehistoric and historic sites, buildings, objects, and antiquities of local, regional, or National significance so as to preserve their historical, cultural, and scientific values for the benefit of the public.

Soil and Water

To maintain and enhance soil productivity, water quality and water quantity and to meet or exceed State water quality standards.

Municipal Watersheds

To manage municipal watersheds to provide water of a quality which, with adequate treatment by the purveyor, will result in a safe and satisfactory water supply to maintain or improve water quality and stream flow.

Air

To maintain air quality at a level that is adequate for the protection and use of National Forest resources, and that meets or exceeds applicable Federal and State standards and regulations.

Wildlife

To maintain or enhance the unique and valuable characteristics of riparian areas and to maintain or improve water quality, wildlife habitat, and fish habitat near or within riparian ecosystems.

To protect and manage habitat for the perpetuation and recovery of plants and animals which are listed as threatened, endangered, or sensitive.

To provide habitat for viable populations of all existing native and desired nonnative vertebrate wildlife species and to maintain or enhance the overall quality of wildlife habitat across the Forest.

To provide near-optimum hiding cover, thermal cover and forage conditions on big-game winter ranges and selected summer ranges.

To protect anadromous fish habitat, particularly within the John Day River drainage.

Recreation

To provide for the use and occupancy of the National Forest by private individuals or Federal, State, and local governments when such use is consistent with Forest management objectives, is in the public interest, and cannot reasonably be accommodated by development on private land.

To provide an attractive, visually pleasing Forest setting, emphasizing natural appearance of areas seen from major travel ways and recreation sites.

Maintain or increase the variety of recreational opportunities that is available on the Forest and make those opportunities available to all segments of society.

Wilderness

To preserve the natural conditions and outstanding opportunities for solitude represented in the four wilderness areas on the Forest.

Energy

To provide for exploration, development, and production of energy resources on the Forest in coordination with other resource values and environmental considerations. Also to provide for energy transmission facilities on National Forest lands.

Minerals

To provide for exploration, development, and production of a variety of minerals on the Forest in coordination with other resource objectives, environmental considerations, and mining laws.

Transportation

To provide safe, efficient, environmentally sound access for the movement of people and materials involved in the use and management of National Forest lands.

Protection

To provide well-planned and executed fire protection and fire use programs that are cost efficient and responsive to land and resource management goals and objectives.

To control Forest pests to levels that are compatible with resource objectives.

Timber

To provide for production of wood fiber to satisfy National needs and benefit local economies consistent with multiple resource objectives, environmental constraints, and economic efficiency.

To provide fuelwood for personal and commercial uses.

Livestock Grazing (3)

To make forage from suitable rangelands available for grazing by domestic livestock while developing the range resource to its highest efficiently attainable level.

FOREST MANAGEMENT OBJECTIVES AND RESOURCE SUMMARIES

Table 4-1 shows outputs and activities by resource. These outputs and activities are resource management objectives for the Forest. Actual achievement of the levels of outputs and activities depends on funding. Appendix A lists those projects for which environmental analysis is complete and decisions have been made. A listing of timber sales planned for the first five years of plan implementation is found in Appendix E.

The following is a narrative description by resource:

Soil and Water

Soil and water restoration work is at significantly higher levels (1,000 acres per year) than has occurred in recent years. Standards and guidelines place high priority on the protection of soil and water.

Timber

Timber harvest is scheduled from 831,700 acres on a nondeclining evenflow basis. Areas not scheduled for timber harvest include alpine and subalpine areas around the perimeter of the Eagle Cap Wilderness and in the Elkhorn Mountains. Timber management is constrained on winter ranges and some summer ranges to provide better big game habitat.

The sawtimber volume to be sold in the first decade is 28.3 MMCF (143 MMBF) annually. Figure 4-1 displays the long-term sustained yield capacity and the allowable sale quantity. Salvage of cull material and dead lodgepole pine are projected to add 7.8 MMCF per year. This level of timber production will require considerable investment in fuel treatment, tree planting, and timber stand improvement. Approximately 5 million cubic feet of personal-use firewood may be removed from the forest each year.

Livestock Grazing

Permitted annual domestic livestock use is an estimated 207,000 animal unit months, an increase of 11 percent over recent historical levels. This increase is realized through increased investments in range improvements and through application of improved grazing systems. It provides the most economically efficient level of range management. Grazing levels for individual grazing allotments will be determined by specific analysis.

Recreation

Primitive and semiprimitive recreation opportunities are provided in wilderness, portions of the Hells Canyon National Recreation Area and in alpine and subalpine areas in the Elkhorn and Wallowa Mountains. Portions of the Monument Rock and Grande Ronde roadless areas also provide semiprimitive recreation opportunities. The remainder of the Forest is managed to provide recreation opportunities in a roaded modified setting. Some big-game summer ranges (selected primarily because of their importance to big-game hunters) are managed to provide a more challenging hunting experience and higher quality habitat than is normally found in roaded modified settings.

Recreation site construction and reconstruction are at a rate of 550 persons-at-one-time (PAOT) capacity per year for the first decade, completing the development directed in the Hells Canyon National Recreation Area Comprehensive Management Plan. Reconstruction continues at a rate of 50 PAOT per year for the remainder of the plan period.

Landownership

Landownership will be adjusted, as opportunities arise, where this would serve to consolidate National Forest lands, result in a net reduction in property lines, acquire lands in Federally-designated areas, obtain lands needed for administrative or research purposes, improve resource conservation and production, or otherwise be clearly in the public interest. Land ownership objectives for each management area are found in the Landownership Plan in Appendix D.

Table 4-1
RESOURCE OUTPUTS AND ACTIVITIES
- TIMBER -

Output/Activity	Unit of Measure	MIH Code	1986-1995	1996-2005	2006-2015	2016-2026	2026-2035
Lands Suitable for Timber Production 1/	M Acres		831.7	.....			
Management Intensities 2/							
PLTPCH	M Acres		11.2	.....			
PLT PH	M Acres		140.0	.....			
PLT CH	M Acres		27.5	.....			
PLT H	M Acres		124.6	.....			
NATPCH	M Acres		39.7	.....			
NAT PH	M Acres		177.0	.....			
NAT H	M Acres		206.4	.....			
SELECT	M Acres		105.3	.....			
Timber Harvested by:							
Commercial Thinning	M Acres/Year	E02	2.0	4.5	0	0	0.8
Clearcut	M Acres/Year	E01	4.2	4.1	1.8	4.6	3.1
Shelterwood	M Acres/Year	E01	8.4	5.2	8.0	5.6	4.5
Overwood Removal	M Acres/Year	E01	1.3	5.9	9.7	7.1	8.1
Selection	M Acres/Year	E01	6.0	3.0	5.5	3.9	9.0
			21.9	22.7	25.0	21.2	25.5
Allowable Sale Quantity							
Sawlog Volume	Million CF/Year	X06	28.3	28.3	28.3	28.3	28.3
	Million BF/Year		143	137	156	140	137
Unregulated Timber 3/	Million CF/Year	X07	7.8	6.5	5.2	5.2	5.2
Personal Use Fuelwood	Million CF/Year	X08	5.0	5.0	5.0	5.0	5.0
Fuel Treatment	M Acres/Year	P11	19.8	20.8	22.4	19.0	25.3
Reforestation 4/	M Acres/Year	X36	4.6	4.1	5.0	3.8	2.0
Timber Stand Improvement	M Acres/Year	X41	6.8	8.8	7.3	2.8	4.4
Fire Management Effectiveness Index	$/M protected Acres/Year	Y79	947	933	918	913	918

1/ Suitable for timber production given the multiple use objectives of this plan (36 CFR 219.14 (d)).
2/ PLTPCH = Plant, precommercially thin, commercially thin and harvest; PLT PH = Plant, precommercially thin and harvest; PLT CH = Plant, commercially thin and harvest; PLT H = Plant and harvest; NATPCH = Natural regeneration, precommercially thin, commercially thin and harvest; NAT PH = Natural regeneration, precommercially thin and harvest; and NAT H = Natural regeneration and harvest.
3/ Salvage of cull, dead lodgepole pine, and small diameter (less than 5 inches) material which is not part of the allowable sale quantity.
4/ Includes all lands where activities to aid in tree reestablishment are employed.

Table 4-1
RESOURCE OUTPUTS AND ACTIVITIES
- RECREATION -

Output/Activity	Unit of Measure	MIH Code	1986-1995	1996-2005	2006-2015	2016-2026	2026-2035
Developed Recreation Use	M RVD's/Year	W09,W10	399	464	523	572	635
Nonwilderness Dispersed Recreation Use 1/	M RVD's/Year	W07,W08	373	434	510	600	705
Roaded 2/	M RVD's/Year	W03,W05	423	492	506	520	535
Unroaded 3/							
Wilderness Use 1/	M RVD's/Year	W33	78	91	108	128	152
Wildlife and Fish Recreation Use	M WFUD's/Year 4/	W41-W48, W50,W51,W55	368	420	464	513	567
Trail Construction and Reconstruction	Miles/Year	A10,A11	4	5	5	5	5
Developed Site Construction and Reconstruction	PAOT/Year 5/	A05,A06	550	50	50	50	50
Visual Quality Objectives							
Preservation	M Acres	W18	582.7	582.7	582.7	582.7	582.7
Retention M Acres		W19	257.6	257.6	257.6	257.6	257.6
Partial Retention	M Acres	W20	397.4	397.4	397.4	397.4	397.4
Modification/Max.Mod.	M Acres	W21,W22	1,111.5	1,111.5	1,111.5	1,111.5	1,111.5
Unroaded Areas Remaining	M Acres	A01	358.8	334.0	334.0	334.0	334.0

1/ Figures are exclusive of wildlife and fish recreation user days (WFUD's).
2/ Includes roaded natural, roaded modified, rural, and urban recreation opportunity spectrum classes.
3/ Includes primitive, semiprimitive nonmotorized, and semiprimitive motorized recreation opportunity spectrum classes.
4/ Wildlife and fish user days (hunting and fishing).
5/ Persons at one time; capacity increased or improved per year.

Table 4-1
RESOURCE OUTPUTS AND ACTIVITIES
- WILDLIFE, RANGE, WATERSHED -

Output/Activity	Unit of Measure	MIH Code	1986-1995	1996-2005	2006-2015	2016-2026	2026-2035
Old-growth	M Acres		173.0	165.0	161.8	161.8	161.5
Management Indicator Species 1/							
Bald Eagle	Pairs	W38	1	8	8	8	8
Peregrine Falcon	Pairs	W38	0	4	4	4	4
Pileated Woodpecker	Pairs	W47	346	330	323	323	323
3-Toed Woodpecker 2/	Pairs	W47	NE	NE	NE	NE	NE
Pine Marten 2/	Pairs	W45	NE	NE	NE	NE	NE
Anadromous Fish 3/	M Spawning Adults	W54	38.2	39.4	40.2	41.0	41.8
Rocky Mountain Elk 4/	M Elk Summering	W42	21.0	20.4	19.6	20.2	20.0
Wildlife Habitat Improvment	Acres	C02	1,000	1,000	1,000	1,000	1,000
Wildlife Habitat Improvment	Acre Equivalents	C02	5,000	5,000	5,000	5,000	5,000
Water Yield	Million Acre Feet	X81	2.73	2.73	2.73	2.73	2.73
Sediment	% of natural		119	119	120	120	120
Watershed Improvement Work	Acres/Year	X89	1,000	1,000	1,000	1,000	1,000
Range--Permitted Grazing 5/	M AUM's/Year	W66	207	207	207	207	207

1/ Numbers of management indicator species are index values only, based upon acres of available
2/ Population trend not estimated, but expected to parallel pileated woodpecker.
3/ Numbers of spawning fish assuming full escapement of the numbers shown, 38,203 are due to achievement of full escapement--work done by other agencies.
4/ Index number of elk summering on the Forest.
5/ Levels shown are estimated for the Forest as a whole, based on available forage and investments by livestock permittees and the Forest Service. Levels for individual grazing allotments will depend on allotment-specific analysis.

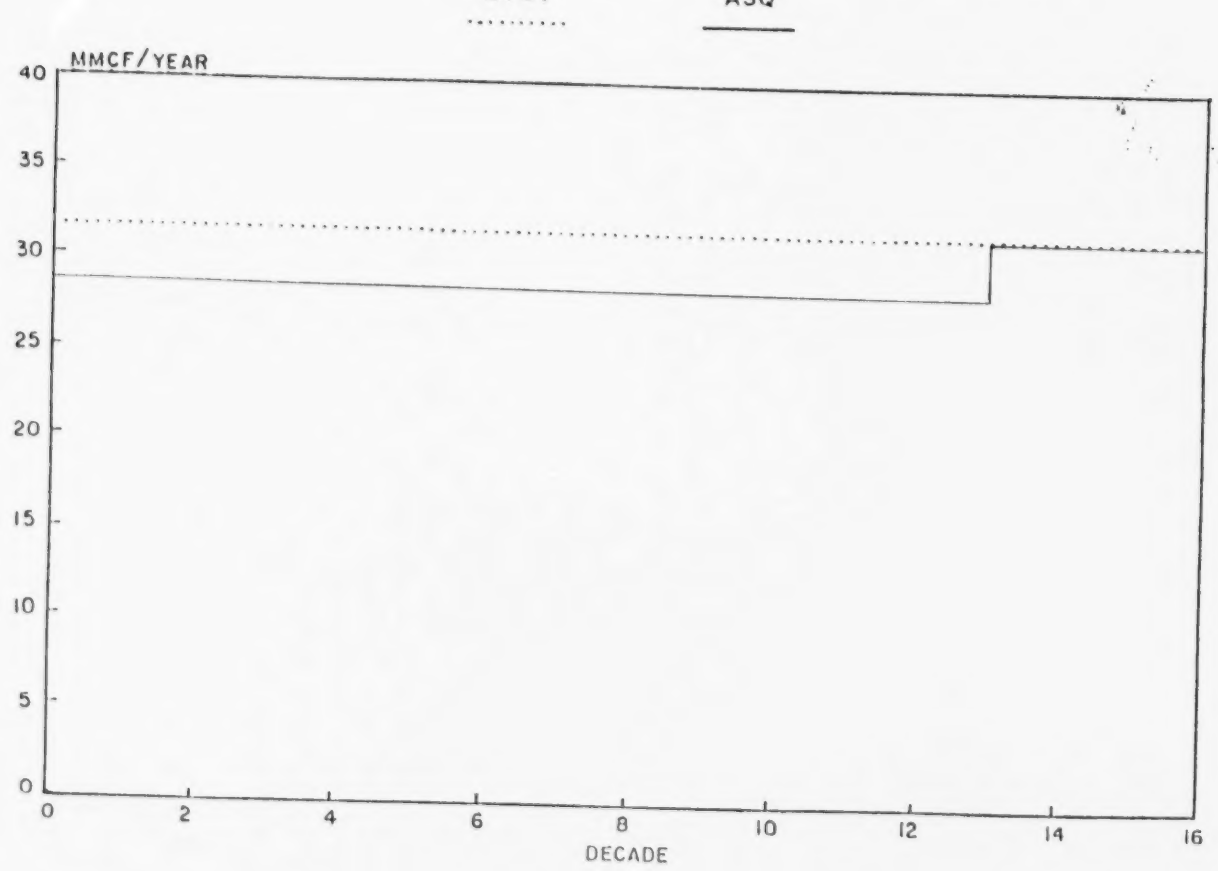
Table 4-1
RESOURCE OUTPUTS AND ACTIVITIES
-ROADS, MINERALS, LOCAL ECONOMY, COSTS AND RETURNS -

Output/Activity	Unit of Measure	MIH Code	1986-1995	1996-2005	2006-2015	2016-2026	2026-2035
Arterial and Collector Road Construction and Reconstruction	Miles/Year	L04,L08	103	88	88	88	88
Timber Purchaser Road Construction and Reconstruction	Miles/Year	L14,L29	142	132	127	127	127
Roads Suitable for Public (Passenger car)	Miles	L19(749)	860	865	865	865	865
Roads Suitable for Public (High Clearance Vehicle)	Miles	L19(747)	3,195	3,195	3,195	3,195	3,195
Roads Requiring User Maintenance (High Clearance Vehicle)	Miles	L19(748)	2,224	2,565	2,756	2,756	2,756
Closed Roads	Miles	L19(746)	3,910	4,080	4,175	4,175	4,175
Minerals Produced 1/	Million $/Year	Y01	13.5	54.2	71.6	94.6	125.0
Mineral Operating Plans	Number Active/Year	G01-G08	354	397	419	442	466
Human Resource Program	Person Years/Year	Z56	4	4	4	4	4
Changes in Forest-Related Jobs	Number		-53	----------NOT ESTIMATED----------			
Changes in Forest-Related Personal Income	Million $/Year		-2.3	----------NOT ESTIMATED----------			
Payments to Counties	Million $/Year		4.5	4.4	5.6	4.3	4.2
Operational Costs	Million $/Year		10.5	10.5	10.2	10.3	10.5
Capital Investment Costs	Million $/Year		11.1	8.8	8.6	7.4	7.4
Total National Forest							
Allocated	Million $/Year		6.6	5.5	5.3	4.1	4.0
Appropriated	Million $/Year		15.1	13.8	13.5	13.7	13.8
Returns to Government	Million $/Year	G01-G08	16.0	16.0	20.4	15.7	15.9

1/ Gross metal values, including costs of extraction and processing. Therefore not directly comparable with other resource values contained in this analysis.
2/ Gross Federal receipts including purchaser road credits.

Figure 4-1

LONGTERM SUSTAINED YIELD AND ALLOWABLE SALE QUANTITY



Wilderness

The Eagle Cap Wilderness is managed under Alternative C of the Eagle Cap Environmental Assessment which emphasizes rehabilitation, enhancement of opportunities for solitude, and provides a wide range of primitive and unconfined recreation opportunities (Appendix B). The Monument Rock and North Fork John Day Wilderness Management Plans will be written by the Malheur and Umatilla National Forests, respectively. The Hells Canyon Wilderness Management Plan, implementing objectives of the Hells Canyon NRA Comprehensive Management Plan, is Appendix C of this plan.

Wild and Scenic Rivers

The following rivers or river segments are recommended for inclusion in the National Rivers System:

River	Segment	Miles	Class 1/
Grande Ronde	Within National Forest boundary from Rondowa to 1/2 mile below Grossman Creek	18	W 2/
Lostine	Wilderness boundary to Forest boundary	15	R
North Fork John Day	Nonwilderness portion	7	R

1/ (W-Wild; S-Scenic; R-Recreational)

2/ Will be coordinated with Umatilla National Forest and/or Bureau of Land Management.

Landscapes

The visual quality objectives summarized in Table 4-1 will maintain the natural appearance of landscapes seen from major travel routes and recreation sites. Other lands outside of wilderness will appear somewhat to heavily modified by timber management activities. Areas of lodgepole pine salvage will be most heavily modified; visual quality objectives for these areas will be rehabilitation to meet modification, partial retention, or retention as appropriate.

Roadless Areas

Of the 235,201 acres of inventoried roadless area outside the Hells Canyon National Recreation area none are recommended for wilderness, 101,498 acres are retained in a roadless condition and 133,703 acres are available for development.

Although timber harvesting will occur within the Joseph Canyon roadless area in this alternative, the area will be managed to retain its essentially roadless condition. Logging systems will be utilized which will not require significant new road construction.

Transportation

Twenty-nine percent of the total existing roadless area of the Forest is accessed for timber harvest under this alternative. It is estimated that road construction in areas which are currently roadless will total 279 miles in the first decade, 170 miles in the second decade, and 11 miles in the third decade. No significant additions to the road system are anticipated after the third decade.

The Five Points drainage will not be made more accessible for motorized use than it is at present, except as necessary to carry out timber sale projects. All new roads will be closed to public motorized use after timber-related activities are completed.

Other portions of the Forest are currently roaded but do not have access to some timber stands. Completion of the Forest's road system will require an additional 1,600 miles of road. The use of the transportation system on winter ranges is restricted so that only 1.5 miles of road per square mile are open to motorized use. In areas where undeveloped dispersed recreation is emphasized, road density is maintained at current levels. Elsewhere on the Forest the goal for road density is not to exceed 2.5 miles per square mile. To achieve the specified open-road densities will require closure of 1,745 miles of existing road.

Research

In addition to the one existing research natural area, 13 areas are recommended for inclusion into the Research Natural Area System:

Lightning Creek
Alum Beds
Boner Flat
West Razz Pond and Razz Lake
Bills Creek
Duck Lake
Government Draw
Indian Creek (existing RNA)
Pleasant Valley
Little Granite
Craig Mountain Lake
Mt. Joseph
Vance Knoll
Glacier Lake

Fish and Wildlife

The Forest will participate in reestablishing eight pairs of bald eagle and four pairs of peregrine falcon. These are the recovery objective levels described in Chapter III of the DEIS.

Old-growth forest is provided at a level higher than necessary to satisfy the minimum management requirements (MMRs) for pileated woodpecker, pine marten and three-toed woodpecker on available, capable Forest lands. This distribution of old-growth is expected to satisfy needs of goshawk and Townsend's warbler, with many existing goshawk territories included in the old-growth allocation. Fourteen thousand acres of unsuited subalpine forest and 53,000 acres of uneconomic lodgepole pine augment this

old-growth habitat for pine marten and three-toed woodpeckers. Old-growth habitat will total approximately 161,500 acres over the long term, including large reserves of old-growth in wilderness, the HCNRA, and unsuited lands.

Timber managed without thinnings, totalling 331,000 acres, ensure the future development of pole thickets and dense young-to-mature forest stands to the benefit of sharp-shinned hawks and Cooper's hawks.

Habitat for those primary cavity excavators relying on smaller snags is expected to exceed the 40 percent level of effectiveness through natural mortality in managed stands. Habitat effectiveness for all cavity nesters will be managed at or above the 60 percent level in riparian zones and throughout the Hells Canyon National Recreation Area. High snag levels on 568,000 acres of unsuitable lands (including wilderness and old-growth) will occur to the benefit of all primary cavity excavators.

Elk (big-game) winter ranges are managed to provide high quality cover and forage conditions. Some summer ranges, because of their importance to elk, are also managed to provide high quality habitat. The remaining summer ranges are managed emphasizing production of commodities, although a minimum level of elk (big-game) habitat protection is provided through application of Regional harvest dispersion constraints.

State water quality goals will be met. Riparian habitat will be maintained or enhanced through more stringent livestock management requirements to the benefit of the yellow warbler and salmonid fishes. High emphasis is placed on anadromous fish habitat improvement, with about 600 acres per year of habitat improvement targeted. Timber harvest in the John Day River drainage will be scheduled so to maintain water flows within desired limits for the protection of anadromous fish habitat.

Municipal Watersheds

Timber harvest occurs at a reduced level within the Baker and La Grande domestic supply watersheds. Within the overall objective of providing quality water, management within the Sumpter and Wallowa watersheds emphasizes timber production.

Minerals

Of the areas of known mineral potential 195,000 acres are open to mineral entry with normal coordination requirements, 34,400 acres have restricted entry, and 194,000 acres are closed to new mineral entry.

DESIRED FUTURE CONDITION OF THE FOREST

It is likely to be more than four decades before effects of management, as directed by this plan, are evident over the entire Forest. Through future plans, the direction may change. The following remarks describe the Forest after ten and fifty years, assuming the direction from this plan remains constant.

The Forest in Ten Years

At the end of the first decade, the Forest will, with two significant exceptions, have retained its present general character. The first exception will be in the areas with lodgepole pine timber, particularly on the La Grande and Baker Ranger Districts, where harvest of dead and dying trees will have created marked changes in the landscape. Roads, clearcuts, and plantations will have replaced much of what are now large areas of unbroken tree canopy.

The second notable change will be in the roading and timber harvest within several previously undeveloped areas, especially the Mt. Emily and Lake Fork Roadless Areas.

The discerning eye may also notice that there has been a general reduction in large trees and an increase in the number of regeneration harvest units in areas where selective harvest had occurred 10 to 30 years in the past. Many of the large openings created in the lodgepole pine stands during the late 1970's and early 1980's will still be noticeable, but will now contain stands of young trees, some more than 20 feet in height.

The range of recreation opportunities currently available will still be available but will change in amount and location.

It will still be possible to gather fuelwood from the Forest, but it will be noticeably more difficult to find and of poorer quality than at present.

The Forest in Fifty Years

This plan will be reviewed every 5 years and normally revised every 10-15 years. The following describes the Forest in 50 years as it is expected to be if the management described in this plan continues to that time.

Wilderness and roadless recreation areas (Management Area 6) will be unchanged from the present except for subtle vegetational changes. The same will be true of Management Areas 8, 9, and 10 within the Hells Canyon National Recreation Area. Management Area 11 in Hells Canyon NRA will appear managed to the discerning eye, but will retain a high degree of naturalness. In addition, the research natural areas will appear relatively unchanged, as will utility corridors and developed recreation sites. The Phillips Lake area will have noticeably larger and more attractive ponderosa pine trees surrounding it.

Nontimbered areas will remain unchanged in appearance, and where forest and openings are interspersed, the general character, as seen from a distance, will be similar to today.

The most noticeable changes will occur in the areas designated for timber management outside the Hells Canyon NRA (Management Areas 1, and 3 and 18), especially in areas where no harvest has previously occurred. It will be apparent that many areas are being managed for high levels of timber production; e.g., tree stands of different ages; trees within stands the same size and spaced for rapid growth; the forest floor relatively free of

fallen trees; and few large dead trees (snags). Stand ages will vary from 0 to 90 years with regeneration units (recent clearcuts, shelterwood, or seed tree harvest units) more evident than at present.

The foregoing tends to give the picture of a mosaic pattern of even-aged stands in Management Areas 1, 3 and 18; a "tree farmed" appearance. There will, however, be many conditions that will disrupt this mosaic, and the managed Forest will still contain many of its present characteristics. These conditions include 38,000 acres of designated old-growth groves, dispersed through Management Areas 1, 3 and 18, and ranging size from 30 to 600 acres. Nearly 100,000 acres of timbered land unsuitable or uneconomic for timber production will be interspersed in patches of several acres to hundreds of acres in size. An additional 19,000 acres of riparian vegetation (along live and intermittent streams) and 49,000 acres of particularly sensitive visual management areas (visual foreground) are intermixed through the intensively managed lands. The riparian and visual management objectives will retain or emphasize their special resource values, and will result in their retaining a natural appearance even when viewed from close distances. The proximity of old-growth groves, unsuited lands, riparian zones, and key visual management areas to intensively managed areas will create variety over the area as a whole.

Within Management Areas 3 and 18, conversion of timbered areas to a managed conditon will have taken place more slowly. Many lands considered suitable for timber production will not have been entered by the year 2030, being maintained as mature timber stands for wildlife cover.

In summary, the forested areas where timber management occurs (approximately one-half of the forest) will appear more dominated by human activities than at present, but there will also be many similarities to today's conditions.

The range of recreation opportunities currently available will still be available, but competition for each will be much greater. Opportunity for recreation in a primitive (wilderness-like) setting will be similar to the present. Opportunities for motorized and nonmotorized recreation in a semiprimitive ("backcountry") setting will be reduced, while opportunities for recreation in a roaded modified setting will increase.

Fuelwood from the Forest will no longer be available as a primary source of home heating for most local area homes.

Livestock will be seen throughout the Forest in numbers similar to today. There will be more fences and watering developments than are currently Oresent. Overgrazed streamside zones will be a rarity. There will, in general, be more hardwood vegetation along streams than is present today.

Whereas sightings of bald eagles are now a rarity on the Forest, there will be more sightings, especially near large lakes and streams. Salmon will be present in the Grande Ronde River system in much higher numbers than today and will be slightly increased in the North Fork John Day river system. Elk will remain near present levels; deer will recover from present lows to about the recent historic average levels.

A description of each management area is provided in the Management Strategies section of this chapter.

Proposed and Possible Management Activities by Management Area

Tables 4-2 and 4-3 display the acreages of the various management areas (described later in this chapter) and the proposed and probable management practices to occur within each management area. Details of timber management activities for each management area are found in Appendix E, the Ten-Year Timber Sale Action Plan.

Table 4-2
MANAGEMENT AREA ACREAGES

Management Area		Acres
1		656,355
3		464,937
4	Wilderness	582,700
5	Phillips Lake Area	4,967
6		110,924
7	Wild and Scenic River	6,283
8	HCNRA Snake River Corridor	14,355
9	HCNRA Disp. Rec./Nat. Veg.	161,078
10	HCNRA Forage	128,009
11	HCNRA Disp. Rec/Tmbr. Mgt.	74,866
12	Research Natural Areas	14,560 2/
13	Homestead Further Planning Area 1/	5,733
14	Starkey Exp. For. & Range	27,051
15	Old-Growth Forest	38,196
16	Administrative and Recreation Sites	5,744
17	Utility Corridors	6,594
18		60,223
	Total	2,349,215

1/ If the Homestead Further Planning Area does not become wilderness 3,708 aces would become part of Management Area 10 with the remaining acres being within Management Areas 1 and 3.
2/ 13,360 acres within wilderness, Snake River Corridor, Dispersed Recreation/Native Vegetation, or further planning allocation.

TABLE 4-3

PROPOSED AND PROBABLE MANAGEMENT PRACTICES BY MANAGEMENT AREA 1/
(Annual Values by Decade)

Management Practice of Activity	MIH Code	Units	Total Proposed (Decade 1)	Total Probable (Decade 2)	MA 1	MA 3	MA 4	MA 5	MA 6	MA 7	MA 8	MA 9	MA 10	MA 11	MA 12	MA 13	MA 14	MA 15	MA 16	MA 17	MA 18
Recreation Site Construction	A05	PAOT	500	0							X	X	X	X							
Recreation Site Reconstruction	A06	PAOT	50	50				X			X	X	X	X					X		
Primitive Recreation Use	W01	MRVDs	7	7								X	X								
Semiprimitive Nonmotorized Recreation Use	W03	MRVDs	157	180					X		X	X	X			X					
Semiprimitive Motorized Recreation Use	W05	MRVDs	344	395					X		X	X	X								
Roaded Natural Recreation Use	W07	MRVDs	1,139	1,307	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
Rural Recreation Use	W09	MRVDs	136	156				X											X		
Wilderness Recreation Use	W33	MRVDs	153	176			X														
Trail Construction & Reconstruction	A10 & A11	Miles	4	5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Wildlife Habitat Improvement	C02, C03	Acres	1,000	1,000	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
Timber Harvest 3/																	X				X
Commercial Thinning	E02	MAcres	2.0	4.5	X	X		X		X							X				X
Clearcutting	E01	MAcres	4.2	4.1	X	X				X				X			X				X
Shelterwood	E01	MAcres	8.4	5.2	X	X		X		X				X			X				X
Selection	E01	MAcres	6.0	3.0	X	X		X		X				X			X	X			X
Overwood Removal	E01	MAcres	1.3	5.9	X	X		X	X					X			X				X
Reforestation (Planting)	E04	MAcres	4.6	4.1	X	X		X		X				X			X				X
Timber Stand Improvement	E05	MAcres	6.8	9.8	X	X		X		X				X							
Arterial & Collector Road Construction	L04 & L08	Miles	50	5	X	X					X	X	X	X			X			X	X
Arterial & Collector Road Reconstruction	L05 & L09	Miles	635	585	X	X			X	X	X	X	X	X			X	X		X	X
Local Road Construction	L12	Miles	1,123	511	X	X		X		X	X	X	X	X			X			X	X
Local Road Reconstruction	L13	Miles	237	223	X	X		X	X	X	X	X	X	X			X			X	X
Temporary Road Construction		Miles	1,001	1,071	X	X		X		X				X			X				X
Treatment of Activity Fuels	P11	MAcres	19.8	20.8	X	X		X		X				X			X				X
Watershed Improvement	X89	Acres	1,000	1,000	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Permitted Grazing Use	W69	MAUMS	207	207	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X

1/ "X" indicates that activity is likely to occur within this management area.
2/ Also see Appendix E

MULTIPLE-USE STANDARDS AND GUIDELINES

The following standards, guidelines, and management area direction supplement, but do not replace, direction from Forest Service Manuals and Handbooks and the Regional Guide for the Pacific Northwest Region. Nor is it intended that they conflict with applicable State and Federal laws. The standards and guidelines are common to all management areas. Where direction for a specific management area differs from the Forest-wide standards and guidelines, this direction is specified in the management strategy. Each category is preceded by a Forest-wide goal for that resource or activity.

Following are the categories of Standards and Guidelines and Management Strategies:

Civil Rights

Goal

To provide all persons equal opportunity regardless of race, color, creed, sex, marital status, age, handicap, religion or national origin.

Standards and Guidelines

The Forest will be managed to minimize social and administrative barriers to its use.

The Forest will maintain and implement an affirmative action plan in its hiring, supervisory, and contracting procedures.

The Forest will actively pursue the employment of the handicapped and ensure that the needs of the handicapped are considered in the design of Forest facilities.

The Forest will conduct compliance reviews as required by Title VI of the Civil Rights Act of 1964, within standards established by the Forest Service.

Special efforts will be made to inform the general public, including minorities and the underprivileged, of benefits they are eligible to receive from Forest programs. Techniques and the media best suited to increase awareness and participation will be used.

The ceded land rights and privileges of the Walla Walla, Cayuse, Umatilla, and Nez Perce Indian tribes, under the treaties of 1855, will be considered and appropriately provided for in all Forest activities.*

The Forest managers will strive to provide all Native Americans access to sites, use and possession of sacred objects, and their freedom to worship through ceremonial and traditional rights as specified in the American Indian Religious Freedom Act (P. L. 95-341). Appropriate management consideration of these areas will be coordinated with the leaders of the Nez Perce Tribe, and the Umatilla Confederated Tribes, the Northern Paiute Tribe and the Shoshone Tribe, as appropriate.

Cultural Resources

Goal

To provide for the identification, protection, and preservation of prehistoric and historic sites, buildings, objects, and antiquities of local, regional or National significance so as to preserve their historical, cultural, and scientific values for the benefit of the public.

Standards and Guidelines

Overview - Maintain a Forest-wide cultural resources overview that summarizes and compiles known cultural resource information.

Research Design. Maintain a Forest research design to guide cultural resource surveys, establish site significance, and establish priorities for scientific investigation and opportunities for interpretation.

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*Certain rights and privileges are afforded members of the Nez Perce and the Umatilla Confederated Indian Tribes by virtue of the treaties of 1855. These treaties resulted in cession by the Indians to the United States of a large territory which includes approximately two-thirds of the Wallowa-Whitman National Forest. The treaties provide that on the ceded lands, the Indians will continue to have the rights of taking fish in streams running through them and at all other usual and accustomed stations in common with the citizens of the United States and of erecting suitable buildings for fish curing; the privilege of hunting, gathering roots and berries, and pasturing stock on unclaimed lands. Unclaimed lands refers to Federal lands.

Inventory. Conduct Forest-wide cultural resource inventories (survey and site recordation) according to strategies and consultation procedures established on the Forest. Emphasize areas where ground disturbing activities are planned to ensure discovery of all reasonably locatable cultural resources. Inventories of other areas (i.e., wilderness and National Recreation Area) will be accomplished as needed to protect resources in high use areas. These inventories will be designed and supervised by a cultural resource professional.

Evaluation. Evaluate cultural resources that may be affected by project activities. Evaluate against the criteria for eligibility to the National Register of Historic Places. Develop a plan to evaluate all other cultural resources by theme groups, agreements, or other cost-effective means as Forest-wide inventory nears completion.

Nomination. Nominate cultural resources that meet the appropriate criteria to the National Register of Historic Places. Nominations will be scheduled incidentally until completion of the Forest-wide inventory of cultural resources.

Protection. Protect the resources considered eligible for the National Register of Historic Places by making reasonable efforts to avoid adverse impacts to the resources or develop a procedure to conserve the values through proper scientific methods and study.

Consider the effects of all Forest Service undertakings on significant cultural resources, and assure the development of measures to avoid or mitigate any adverse affects.

Protect eligible cultural resources from other human depredation and natural destructon. Protection plans may include physical protection such as fences and barriers, scientific study and collection, patrol and site monitoring, proper use or removal of signs, maintaining site anonymity, and gaining public understanding and support through education.

Protection and maintenance of eligible historic sites and structures will be based on an analysis of utility, interpretive value, and public interest, existing site or area allocation, funding sources, existing agreements, etc.

Resource Enhancement. When appropriate, enhancement of cultural resources should be accomplished. Enhancement may include scientific use or suitable interpretation for public benefit.

a. Interpret suitable cultural resource properties for the recreational use and educational benefit of the general public. The measure of suitability should be based on accessibility to the public, with other resource management activities within or adjacent to the area, thematic representation, and value to public groups. Interpretive service and facilities should be compatible with the nature, qualities, and integrity of the cultural sites selected for enhancement. Preferred methods include brochures, signs, and self-guided tours. Handicapped access to interpreted sites will be provided wherever practicable.

b. Provide opportunities for scholarly/scientific use of designated historic and prehistoric sites, after coordinating selection of appropriate prehistoric sites with the relevant Native American groups. This may require "banking" of sites for future use, processing of antiquities permits for testing, and excavation of sites by qualified professionals.

c. In accordance with PL 94-199, the act establishing the Hells Canyon National Recreation Area, the Forest Service will continue in its efforts to protect, enhance, and interpret both archaeological and historic resources, for the public benefit and knowledge, insofar as it is compatible with protection.

When other resource management activities conflict with the protection and management of cultural resource properties, the sites will be evaluated to determine their significance. Depending on the nature of the project, the activity may be redesigned to avoid damage or disturbance to a significant site, or mitigation procedures will be developed. In instances where avoidance is not possible, the value of the property may be conserved through a professionally-acceptable data recovery program.

Management of cultural resources will be coordinated with other agencies including the State Historic Preservation Offices and the Advisory Council on Historic Preservation, as required by Federal and State historic preservation laws and regulations.

Cultural resources may be developed for educational, scientific, or recreational purposes including interpretation, as long as the integrity of the resource is maintained.

a. Cultural resource management will ensure that properties and their records are protected to prevent unauthorized uses and degradation.

b. Public use of cultural properties will be monitored to prevent degradation or as specified in a management plan for the property.

The nonrenewable, generally fragile, nature of cultural resources will be recognized and will be accordingly managed for the greatest scientific and public good.

Management priorities are:

a. Preservation in place for future scientific study and for evidence of the area's historical development.

b. Scientific study to answer questions about prehistoric use and development.

c. Adaptive use of historic structures.

d. Interpretive purposes.

American Indian Religious Freedom Act

a. Management of traditional religious sites will be coordinated with American Indian groups.

b. Information about planned project activities will be presented to American Indian groups for coordination about effects on traditional religious sites.

Soils

Goal

To maintain or enhance soil productivity.

Standards and Guidelines

In general, maintenance of soil productivity and stability will have priority over uses described or implied in all other management direction, standards, or guidelines. Exceptions may occur for such things as campgrounds or transportation facilities when it is determined, through environmental analysis, to be in the public interest.

Soils will be managed in accord with standards and guidelines from Forest Service Manual 2500. As stated therein, detrimental soil compaction, puddling and/or displacement will normally be limited to permanent features of the transportation system, administrative or recreation facilities, or range facilities. In the case of timber sales the transportation system will not exceed 20% of the activity area. (The transportation system includes stock driveways, roads, trails, skid trails, and landings which are in approved locations and intended for re-use.) Roads, trails, skid trails, and landings which are not intended for re-use will be returned to timber and/or forage production, depending on site capability. The 20% limit is not intended to apply to roadside salvage and similar operations where the existing road system dominates the activity area, although practices (as described below) will be employed to minimize soil compaction and displacement from skidding and at landings.

When scablands or other lands having shallow soils are involved within a project area, the effects on such lands will be given special consideration during project analysis. Such analysis will especially consider the fragile nature of the soils involved and, as necessary, provide for protection and mitigation measures.

The use of approved skid trails, logging over snow or frozen ground, or some equivalent system for limiting the impact and areal extent of skid trails and landings and preventing cumulative increases from multiple entries will be used in tractor logging areas. The objective is to limit detrimental soil compaction, displacement, and puddling.

To meet these standards will require mitigation of problems in some instances. It is recognized that avoiding soil productivity losses is more effective than mitigation in maintaining site productivity.

Watershed (Including Riparian Ecosystems, Streamside Management Units, Floodplains, Wetlands, Water Rights and Fish Habitat)

Goal

To maintain or enhance the unique and valuable characteristics of riparian areas and to maintain or improve water quality, streamflows, wildlife habitat, and fish habitat.

Standards and Guidelines

Streamside Management Units (SMU's) and Fish. Management and enhancement of water quality and protection of watercourses and streamside management units (SMU's) will have priority over uses described or implied in all other management standards or guidelines. See Forest Service Manual 2500 for detailed discussion of streamside management.

Water quality will be maintained through the application of Best Management Practices as described in FSM 2500, the goal being to meet State water quality standards for temperature, turbidity, and other parameters where applicable. It is recognized that short-term reductions in water quality may result from some activities.

Tree stands within SMU's will be managed to maintain the vegetative characteristics needed for water quality protection or improvement and to maintain or enhance stream channel stability.

The need for vegetative treatment within an SMU will be determined on a case-by-case basis through project environmental analysis.

Temperatures will not be measurably increased in Class I Streams. Temperature increases on SMU Class II (and fish-bearing SMU Class III) streams will be limited to the quantitative criteria in State standards. Temperatures on other streams may be increased only to the extent that water quality goals on downstream, fish-bearing streams will still be met. Natural large woody debris, plus trees needed for a future supply, will be maintained and managed to protect or enhance stream channel and bank structure, enhance water quality in SMU Class I and II streams, and provide structural fish habitat.

Suitable timberland within SMU's is part of the regulated timber harvest base although harvests will be at less than full yield, reflecting water quality and other riparian objectives.

Areas in which water quality is being adversely impacted will be given high priority for treatment to minimize the effects of the impact or to correct the impacting activity.

Where streambanks have become unstable, or cover does not meet fish habitat needs, streambank vegetation will be improved where it can be effective. In problem areas, measurable objectives will be set (e.g., height and density of willows or percentage of vegetative cover) including a specific date for accomplishment.

Protection of watershed values will be a major consideration in evaluating proposed mineral operating plans.

Within anadromous and other Class I and II fish-producing streams and other streams critical to the protection of downstream fish-producing streams, special consideration will be given to maintaining suitable streamflows. When projects are planned which are likely to adversely affect streamflow volume or timing in these streams a hydrologic analysis will be conducted considering past, present, and future activities. If the streamflows projected from this analysis would adversely affect the suitability of the stream as fish habitat based on the existing stream channel capacity and condition, the project will be altered to protect or enhance fisheries values. This may include such things as deleting or rearranging harvest units in timber sales, selecting different silvicultural prescriptions, or delaying harvest for one or more decades.

On a case-by-case basis, the need for special timber sale contract clauses to protect channel stability and water quality will be evaluated in timber harvest, road construction, and other project environmental analyses.

Floodplains. All project environmental analyses will address the presence of and potential impacts to any floodplain within the project area.

Investments in major structures, roads, or other facilities within floodplains may be made only if no feasible alternative site outside the floodplain exists.

Activities, particularly timber sales, which could have short-term adverse impacts on floodplains are permissible if specific mitigation measures designed to minimize the impacts are documented through a project's environmental analysis. Where activities adversely affect natural floodplains, they will be restored, to the extent practicable, shortly after the activity has ceased. (Also, see Riparian Ecosystem direction below.)

Wetlands. All project environmental analyses will address the presence of, and potential impacts to, any wetlands within the project area. Adverse impacts to wetlands will be avoided to the extent practical.

Riparian Ecosystems. Range allotment management plans will include objectives for riparian areas. These objectives will define a desired future riparian condition based on existing and potential values for all resources. When the current riparian condition is less than the desired future riparian condition these objectives will include a schedule for improvement and the allotment management plans will identify those actions needed to meet riparian objectives within the specific time frame. The plan will include a cost-benefit analysis and will address the condition analysis and monitoring needed to determine if the desired rate of improvement is occurring. Allotment management plans currently not consistent with this direction will be revised on a priority basis under a schedule established by the Forest Supervisor.

To the extent practical, roads will not be constructed through the length of riparian areas. Roads crossing riparian areas will not alter stream or ground water flow characteristics to a degree which will impact the riparian

characteristics. Road drainage will be designed and maintained to prevent the influx of road sediment runoff into streamcourses.

Roads currently located in riparian areas or streamside management units will be managed to minimize impacts to water quality and wildlife habitat. In some instances this will require higher levels of maintenance, road surfacing, or drainage than would normally be justified on the basis of road use alone. Roads may be closed, obliterated, and rehabilitated when it is determined, through an environmental analysis considering all resources, to be the best alternative.

Skid trails and roads will be located to avoid paralleling stream channels in streamside management units. Log landings will not be placed in riparian areas. Skidding logs down streamcourses or ephemeral draws will not occur.

The use of heavy equipment (such as crawler tractors and skidders) within riparian ecosystems will be avoided to the extent practical. When such use is unavoidable (as in the construction of bridges or other stream crossing devices or during the construction of stream channel improvements) the activity will include mitigation measures designed to minimize adverse effects on the riparian zone and downstream values.

Recreation activities will be managed to prevent site deterioration within riparian areas. Trails will be designed and maintained to minimize impacts on riparian communities.

Slash created as the result of an activity within the normal high water zone of Class I and II streams will be removed unless needed for soil protection or other purposes. Slash removal from other streams may be required where resource damage would otherwise result. Slash piles normally will not be located within riparian areas.

Sewage effluent from campgrounds, administrative sites, and other developed areas will be disposed of in a manner which will prevent the contamination of surface or subsurface water.
(Also, see Wildlife Standards and Guidelines)

Water Rights. Filing for nonreserved water uses will be accomplished in accord with State law and FSM 2500.

Municipal Watersheds

Goal

All domestic supply watersheds will be managed to provide water of a quality which, with adequate treatment by the purveyor, will result in a safe and satisfactory water supply and to maintain or improve water quality and streamflow.

Standards and Guidelines Applicable to All Domestic Supply Watersheds

Water quality will be the major factor in designing and developing logging and transportation systems.

Management activities may include the use of pesticides and fertilizers when site-specific analysis indicates that water quality will not be adversely affected.

All projects and activities proposed within the watersheds having the potential to affect water quantity or quality will receive site-specific analysis under the Forest Service NEPA process. This analysis will include consultation with the city served by the watershed. In the case of vegetation manipulation, this analysis may include evaluation of opportunities for improving streamflow volume timing.

Activities having the potential to affect water quality will include monitoring to determine if objectives are met.

Use of fire retardants will be managed to avoid direct application into live streams.

Normally fire camps will not be located within a domestic supply watershed. However, if such a camp is necessary or when timber sales or other operations are located within a municipal watershed, facilities will be provided so that wastes (including domestic, human, oil from machinery, etc.) can be transported outside the watershed for disposal.

Standards and Guidelines Specific to the Baker City Watershed

All Forest Service activities will comply with the 1912 Cooperative Agreement between the Secretary of Agriculture and the City of Baker as supplemented.

The agreement between the City of Baker and the Secretary of Agriculture requires that use of land within the domestic supply watershed will not be permitted without the approval of the City of Baker except for measures necessary for the proper protection and care of the forests. These measures include timber management activities which are not detrimental to the water supply, construction activities consistent with the objectives of the agreement and rights-of-way acquired under Acts of Congress.

Other standards and guidelines are: public hunting and fishing within the watershed and vehicle use on the pipeline road will not be permitted without City of Baker approval.

The existing jeep trail system in Elk Creek drainage will be analyzed at the project level as to continued use.

All roads constructed for timber harvest will be designed to minimize impacts to water quality, this will include prompt seeding of stabilizing vegetation on cuts and fills and upon closure of the roads stabilization seeding on the roadbed, unless otherwise agred to with the City of Baker. Selected roads may be gated to provide access for wildfire control and other administrative purposes.

All activities having the potential to affect water quality will include monitoring to determine if objectives are met.

Marble Creek Road (Road 6510) will normally remain open to public use.

Grazing of domestic livestock will be limited to pack stock associated with recreation. Use of recreational livestock will be limited to Forest Service trails.

Proposals for development, expansion and improvement of domestic supply facilities will be approved, subject to site-specific analysis.

Standards and Guidelines Specific to the La Grande Watershed

All Forest Service activities will comply with the 1935 Cooperative Agreement between the Secretary of Agriculture and the City of La Grande as supplemented.

The agreement with the City of La Grande includes the following requirements:

a. That before entering into any agreement for the cutting of timber or removal of other forest products from National Forest lands within the area, the officials of the City of La Grande will be consulted and full consideration will be given to any requirements the City of La Grande may desire to impose as necessary for the safeguarding of the water supply.

b. That in permitting the use of said lands for timber cutting or other purposes, full consideration shall be given to the preservation of the volume and purity of the city water supply, and if the proper State or Federal agencies shall determine, after due study and investigation, that the city water supply is being or will be diminished, contaminated or polluted through permitted operations upon said lands, and there is no other more practicable remedy for the situation, the Secretary, so far as he has the legal authority to do so, will cause such permitted operations to be restricted, modified or discontinued.

c. Grazing of livestock on National Forest lands in the watershed will not be authorized by the Forest Service except with the consent of the officials of the City of La Grande. Any fencing or other improvements found necessary to effectively exclude livestock from the watershed or to aid in safeguarding the water supply will be constructed and maintained by the City under special use permit to be issued by the Forest Supervisor.

d. So far as practicable with the means at his disposal, the Secretary of Agriculture will extend and improve the forests upon these lands by seeding and planting, and by the most approved methods of silviculture and forest management.

e. The Forest Service will administer and protect the area in connection with adjoining National Forest lands. Should the City of La Grande desire any special measures not provided by the regular Forest Service administration, they may be obtained at the expense of the City of La Grande by the appointment of additional employees to be appointed by and to be directly responsible to the Forest Supervisor of the

Whitman National Forest, but their compensation will be paid by the said City at the same rate as men employed by the Forest Service on similar duties.

Other standards and guidelines include: The watershed will be managed to provide water of a quality which is consistent with current levels of purity. Activities will be designed with the objective to maintain or improve water quality and streamflows. Maintaining the water quality and quantity will be the major factors in designing and developing logging and transportation systems.

All projects and activities proposed within the watershed, having the potential to affect water quantity or quality, will receive site-specific environmental analysis under the Forest Service NEPA process. This analysis will include consultation with the City.

Activities having the potential to affect water quality and quantity will include monitoring to determine if objectives are met.

The area immediately adjacent to the reservoir and domestic supply intakes, consisting of approximately 3,500 acres, is presently closed to camping. In the future, if the City desires to further limit use and access to the watershed, a written request to the Forest Service will be acted upon under the Forest Service NEPA process.

Roads within the watershed will be managed to limit public access, provide for fire prevention and suppression, to facilitate Forest management by the U. S. Forest Service, and administration by the City.

The watershed will be closed to off-road vehicle use except for over-snow vehicles operating on four or more inches of snow.

The entire watershed will remain open to nonmotorized types of dispersed recreation including hunting, hiking and backpacking.

The Beaver Creek Reservoir will remain closed to fishing, swimming, wading or other activities which include substantial contact with the water.

A trail system permitting access to the watershed will be provided.

Administrative access to the reservoir area and other facilities will continue.

Standards and Guidelines Specific to the Sumpter Watershed

Road 7300900 (McCully Fork Road) will be closed to public motorized vehicle use within the watershed but will remain open to administrative use by the Forest Service and the city officials.

Air Quality

Goal

To maintain air quality at a level that is adequate for the protection and use of National Forest Resources, and that meets or exceeds applicable Federal and State standards and regulations.

Standards and Guidelines

Minimize the impact of prescribed burning on smoke-sensitive areas as designated in State smoke management plans and Federal class I areas.

Annual emissions (total suspended particulates) will be reduced 15% by 1995 from the baseline of 6,187 TSP.

Smoke from all wildfires and from naturally-occurring prescribed fires within wilderness areas will not be considered a violation of class I air quality standards.

Visibility factors will be managed to the extent possible to keep them within limits of acceptable change (L.A.C.) 90 percent of the time.

Mandatory Class I areas were established by the Environmental Protection Agency on November 30, 1979. On the Wallowa-Whitman Class I areas include the Eagle Cap and Hells Canyon Wildernesses as they existed on that date. By law, the Hells Canyon National Recreation Area and National wild and scenic rivers cannot be designated for Management below Class II, although State Implementation Plans may specify that they be managed as Class I.

Areas designated as wilderness by the Oregon Wilderness Act of 1984 will be managed as Class I areas until formal studies are completed.

Threatened, Endangered and Sensitive Species

Goal

To protect and manage habitat for the perpetuation and recovery of plants and animals which are listed as threatened, endangered, or sensitive.

Standards and Guidelines

The Forest will cooperate in recovery plans for threatened or endangered species. Where such plans conflict with other management area direction, the recovery plans will take precedence.

Areas on the Forest identified in any recovery plans as having high potential as habitat for threatened or endangered species will be inventoried by 1990, or within three years of the publication of such plan. Features of habitat necessary to support the objective number of individuals will be identified. Mitigative measures to avoid possible adverse effects on recovery of populations will be implemented.

During the environmental analysis of each project, available habitat, location records and other information will be reviewed to determine whether known or suspected locations of threatened, endangered or sensitive species or their critical or essential habitats occur. If no critical or essential habitat or reported locations of threatened, endangered, or sensitive species are identified, no further investigation is required. However, personnel will continue to watch for the occurrence of previously unknown populations during normal project activities. Where local conditions warrant, it may be desirable to perform field reconnaissance of such areas even though available records do not indicate the presence of sensitive species.

When critical or essential habitats or reported locations are suspected to occur in the area of influence of a project, a field reconnaissance will be performed to verify more precisely the presence, abundance, and distribution of the threatened, endangered, or sensitive species. If the search is conducted during a season of the year when positive identification is probable and no threatened, endangered, or sensitive species are found, no further investigation is needed. However, project personnel should remain alert to the possibility of overlooked populations.

If listed species are found in the project influence area, their distribution and current status will be determined. Informal consultation with the Endangered Species Branch of the Fish and Wildlife Service will be initiated if the species is Federally listed. If the proposed action is harmful, the action must be modified or curtailed. If this is accomplished, a no-effect situation exists. Identified safeguards will be spelled out clearly in environmental analyses and project plans.

Actions which may affect habitat which is presently being used or has a high potential for use by Federally listed endangered or threatened species or species on the Regional Forester's sensitive species list will be deferred until formal consultation with the USDI Fish and Wildlife Service is completed to determine a course of action.

In cases where other high values or uses would be foregone if the proposed activity were modified or deferred, an investigation of the species involved may be conducted. Management guidelines will be developed that will make possible an assessment of the significance of the specific population involved. Based on these findings and consultation with appropriate State and Federal agencies, a course of action will be determined.

Special Uses

Goal

To provide for the use and occupancy of the National Forest by private individuals or Federal, State, and local governments when such use is consistent with Forest management objectives, is in the public interest, and cannot reasonably be accommodated by development on private land.

Standards and Guidelines

National Forest land will only be made available for support facilities for private development when suitable private land is not available for such needs.

Current recreation residences are under permit through 1999. Extensions beyond that time will be considered in the next Forest Land and Resource Management Plan.

Recreation residence permits will neither be issued for currently unoccupied lots nor will they be issued for lots which become vacant during the period this plan is in effect.

Unless crop production involving cultivation is clearly in the public interest and compatible with other uses of the National Forest, permits for such use shall not be granted. Existing permits which are not within this intent will be terminated as the opportunity arises.

Outfitter and guide operations will be authorized and permitted where FSM 2720 criteria are met and when supported by an environmental analysis.

In considering special use applications the needs of the general public will be given priority over those of the applicant.

Special use evaluation, permit issuance, and administration will be in accordance with Forest Service Manual 2700.

Energy Resources (Oil, Gas, Geothermal) and Power Transmission Facilities

Goal

To provide for exploration, development, and production of energy resources on the Forest in coordination with other resource values and environmental considerations. Also to provide for utility facilities on National Forest lands.

Standards and Guidelines

Based on environmental analyses, the Forest will recommend leasing in management areas where the activity is compatible with management area goals where mitigation will provide a reasonable degree of compatibility.

The Forest will utilize the Pacific Northwest Region's Environmental Assessment entitled "Leasing National Forest Lands for Oil and Gas" as a basis for making recommendations on leasing and in determining necessary stipulations for the protection of other resources.

Post-leasing activity will involve the review and joint approval by the Forest Service and Bureau of Land Management of detailed operating plans concerning activities in a site-specific area.

When applications for rights-of-way for utilities are received, the Forest's first priority will be to utilize residual capacity in existing rights-of-way.

Wilderness areas and wild rivers are excluded from consideration for utility corridors (corridor exclusion areas). Management Strategy 6 areas, research natural areas, scenic and recreational rivers, and the Hells Canyon National Recreation Area are to be avoided when locating utility facilities (corridor avoidance areas).

Utility facilities which are presently in avoidance or exclusion areas are to be removed as it becomes practical to do so. At this point the primary emphasis is to discourage the establishment of additional facilities in these areas.

The transportation and utility corridor including Interstate Highway 84 and other power transmission facilities, which crosses National Forest land between La Grande and Pendleton is designated an existing utility corridor. The Forest Service NEPA process will be used in considering proposals for new facilities within the designated utility corridor just as it will be used in evaluating proposals elsewhere on the National Forest.

Minerals

Goal

To provide for exploration, development, and production of a variety of minerals on the Forest in coordination with other resource objectives, environmental considerations and mining laws.

Standards and Guidelines

Mineral exploration and mineral removal are permitted throughout the Forest except as follows: wild rivers, Phillips Lake area (including the Powder River downstream from Mason Dam), Hells Canyon National Recreation Area, and areas such as campgrounds, research natural areas, administrative sites, and certain roads. Existing mineral withdrawals will be retained to the extent necessary to protect areas with a history of mineral findings, where the management direction is not compatible with use under the mining laws or that are occupied with capital improvements, such as work centers or developed recreation sites whose relocation or replacement would be impractical. Wilderness areas are withdrawn from mineral entry.

Mineral entry is restricted on lands for which a Federal Energy Regulatory Commission permit has been formally requested for proposed hydroelectric facilities.

When operations authorized under United States mining laws are proposed which involve significant disturbance of the surface resources, an operating plan must be submitted and approved in accordance with 36 CFR 228. These operations shall be conducted so as to minimize adverse environmental impacts on surface resources, based on objectives and mitigating measures identified in an analysis of the proposal.

Use of currently developed common mineral (natural gravel and hard rock) material sources will be given priority over undeveloped sources. Exceptions will be made when existing sources are unable to economically supply the quality and quantity of material needed or when conflicts with other resource uses are found to be unacceptable.

Transportation System

Goal

To provide safe, efficient, environmentally sound access for the movement of people and materials involved in the use and management of the National Forest lands.

Standards and Guidelines

The transportation system needed to support resource activities in the management areas will be planned to serve long-term multiple resource needs rather than short-term individual project proposals. The system will be the minimum necessary to provide access for the specific activities authorized under the management area direction. Development of the system may be done in stages as various resource activities occur.

Roads and trails on the Forest transportation system will be designed, constructed, operated, and maintained to relate directly to resource objectives. Design standards, construction procedures, operating and maintenance plans will be based on intended uses derived from the resource objectives considering safety, total cost of transportation, and impacts on the land. The adequacy and safety of the transportation system will conform to the Forest Service Manuals and Handbooks.

If a road is not at an adequate and safe standard for the traffic expected to use it, the road will be reconstructed or traffic will be restricted to a level for which the existing road is adequate. Traffic management may also be used to control access due to structural limitations of the road or limitations imposed by other resources, such as wildlife or recreation.

Trails will be constructed to provide a recreation experience, as well as a transportation route. Trails will be provided to meet specific management objectives and to achieve prescribed difficulty levels.

Although the public use roads will normally be sufficient for management purposes, the open road density guidelines are not intended to place costly restrictions on management or fire control activities. Where additional access needs can be foreseen, gates, signs or other traffic control devices may be used to limit public use but provide for necessary management access.

Trails and helispots may be constructed in all areas unless excluded or constrained by management area direction.

Road density will not normally exceed 2.5 miles of open road per square mile following project completion. In most instances this will be calculated as an average on a Total Resource Information (TRI) compartment basis (approximately 7000 acres). In some cases, more miles of road will be left open for one to three years following an activity to provide short-term access for fuelwood or post-sale use. Total road density (closed and open roads) is not restricted except as stated in standards and guidelines for soils.*

If a decision is made to leave more than 2.5 miles of road open (or more than the quantity specified for any management strategy) the decision to do so will be based on environmental analysis.

Road and trail uses will be managed to protect resources, accommodate or restrict conflicting uses, provide safety, and prevent damage to the facilities.

a. Roads and trails may be made available for different user groups at different times or otherwise restricted.

b. Roads not needed for future management (as determined by resource management objectives) will be obliterated at the end of project use and rehabilitated to restore productive capability. The objective of obliteration will be to return the road area to the resource management purpose of the management area. Vegetative cover will be reestablished by natural processes where possible, or supplemented by such artificial methods as scarifying, ditching, contouring, or seeding. Obliteration will be completed within ten years after termination of contract, lease, or permit.

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*No management strategies prescribe more than 2.5 miles of road per square mile to be left open year around after a project such as a timber sale is completed. This is based on the premise that an open road density of 2.5 miles per square mile will normally be sufficient for public use purposes. Projects which construct or use roads, especially proposed timber sales, will be analyzed with the intent of meeting the 2.5 mile or other prescribed density guideline. This will be calculated on an average for a Total Resource Information compartment or similar sized area (approximately 7,000 acres). However, this guideline is not intended to be inflexible. There are areas on the Forest where low standard roads exceed the 2.5 mile/sq. mile density and provide important recreational use without significant resource or human-caused conflict. There will also be areas where, due to sparse timber conditions, terrain features, or critical resource needs, a density of less than 2.5 miles will be desirable and adequate.

c. Closed roads may be converted to other uses such as special purpose trails.

d. A Forest travel plan identifying road restrictions for wildife protection, recreation, or other purposes will be maintained. This travel plan will be consistent with management direction for individual management areas and with other standards and guidelines herein. (Also, see standards and guidelines for recreation.)

e. A Forest Trail Management Plan will be maintained. It will specify trail construction and maintenance standards, assess the current condition of the trail system and establish a schedule for bringing nonstandard trails to standard.

f. National Recreation Trails will be managed according to the direction in their individual management plans.

The Joseph Canyon Roadless Area, as described in Appendix C of the Draft Environmental Impact Statement for this plan will continue to be managed so as to retain the "essentially roadless" character.

Under the Grande Ronde Land Management (Unit) Plan the Upper Five Points Creek drainage northwest of La Grande has been managed for a roadless recreation experience. Timber harvesting and road building have been permitted only in the event of catastrophe. Under this Forest Land and Resource Management Plan, timber harvest and road building are permitted in accordance with Management Strategy 3. However, except as necessary to carry out timber sale projects, it is not intended that the area be more accessible to public motor vehicles than at present. Therefore, it is planned that for this particular area, new roads constructed for the removal of timber will normally be closed to the public after they have served the needs of the project.

Just as it is impossible to foresee all the exceptions to a prescribed open road density, it is also difficult to foresee the seasonal road or trail closures that may be desirable for year-to-year recreation needs or public desires. For this reason, the Forest Travel Plan is necessary to supplement this Forest Land and Resource Management Plan and provide short-term direction.

Fire and Fuels Management

Goal

To provide well-planned and executed fire protection and fire use programs that are cost-efficient and responsive to land and resource management goals and objectives.

Standards and Guidelines

Wildfires that threaten life, private property, public safety, improvements, or investments shall receive the highest priority for aggressive suppression action.

If a wildfire escapes initial action and threatens to exceed established limits for individual management areas, an escaped fire situation analysis shall be prepared. This analysis weighs the cost of suppression against potential resource losses; suppression action should be appropriate for the values threatened by escaped fires.

Burning plans will be prepared in advance of ignitions and approved by the appropriate line officer for each prescribed fire. The prescribed burning will conform to air quality guidelines. Burning plans will define what an escaped fire is, and when a prescribed fire escapes it will be declared a wildfire and an escaped fire situation analysis will be prepared.

Unplanned ignitions from both natural and human causes may be used for prescribed fires outside of wilderness if a prescribed fire plan has been approved and a fire is burning within prescription. Exceptions will be noted for specific management areas.

Levels and methods of fuel treatment will be guided by resource objectives within the management area, using the most cost-efficient method.

In meeting the total resource objectives of Forest management, the role and potential of fire as an integral part of the forest and rangeland will be considered for use where it furthers the management objectives of the various management areas.

Fire prevention efforts will emphasize the difference between unwanted human-caused fires and prescribed fires which help meet management objectives.

Fuelwood

Goal

To provide fuelwood of all species as a renewable energy resource for personal and commercial uses.

Standards and Guidelines

The Forest will make fuelwood available to the public in a manner which is compatible with other resource values. The following will be considered:

a. Providing access to potential fuelwood or bringing the fuelwood to convenient points in timber sale or thinning areas through the utilization of appropriate timber sale contract clauses or the modification of fuels management prescriptions.

b. Using commercial fuelwood contracts or personal use permits for slash disposal, thinning and site preparation.

c. Managing timber sales so that timber sale operators can be relieved of obligations in sale subdivisions as soon as possible in order to make the fuelwood within them available.

d. Opening certain slash areas to fuelwood gathering prior to traditional disposal.

e. Leaving slash as a fuelwood source for several seasons after it has been piled or rearranged to break the fuel continuity.

f. Maintenance of adequate numbers and distribution of standing dead trees for snag-dependent wildlife species.

Season of year, access, and responsiveness to public needs will be considered when implementing a fuelwood program.

Fuelwood availability for public uses will be considered during preparation, administration, and post-sale activities assocated with timber sales.

Recreation

Goal

Maintain or increase the variety of recreational opportunities that is available on the Forest and make those opportunities available to all segments of society.

Standards and Guidelines

Consistent with other direction in this plan, the Forest will be managed so as to provide a full range of recreation opportunities, except urban, as described in the Recreation Opportunity Spectrum (ROS). The goal for setting and experience opportunities for each ROS class is outlined in the Glossary (Chapter 6). More detailed standards and guidelines are listed below:

Primitive: Timber harvest and mineral exploration and extraction are not appropriate. Access must be nonmotorized with high to moderate degrees of challenge and risk to the pedestrian or equestrian user through a matching variety of trailless areas and different levels of trails.* Site development is Level 1 or less as described in FSM 2331.11c.

Restrictions and controls on the user are not evident after entry. Use densities of PAOT per acre should range from .001 to .025 depending on the landscape's ability to absorb the sights and sounds of humans. Road management objectives are to prohibit use of any existing primitive roads by any motorized user. No roads may be built. Any existing primitive roads will be regraded and/or revegetated to natural-appearing conditions. The compatible visual quality level is preservation.

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*See Trails Handbook (FSH 2309.18) for definition of difficulty levels.

Semiprimitive Nonmotorized: Unscheduled timbed harvest may occur for salvage of catastrophic events or to improve and maintain a healthy, attractive, semiprimitive setting. No new roads may be built. Motorized harvesting and mineral exploration should be done in the low public use season and in not more than half of any decade. All activties must meet "foreground visual quality objectives." Road management objectives are to eliminate or prohibit public motorized use of any existing primitive roads or trails. No facilities except for trail shelters, limited signing, sanitary and safety needs will be installed. All facilities will be made from native, rustic materials. Site development scale is level 1 or less (FSM 2331.11c). Use densities of PAOT per acre should range between .004 and .08 depending on the landscape's ability to absorb the sights and sounds of humans.

Semiprimitive Motorized: Vegetative management may range from no timber harvest to limited unscheduled regeneration cutting and sanitation salvage for the purpose of maintaining a healthy, attractive semiprimitive setting. Harvest units must meet "foreground partial retention" visual quality objectives. Motorized harvesting and mineral exploration may be done over "primitive" road systems primarily in the low public use season. Public access is by trails and primitive roads ranging in challenge from most difficult to easiest.* Road management objectives are to encourage high clearance 4-wheel drive vehicles and trail bikes, but discourage highway vehicles. Primitive roads are maintained at level II. Site development scale is level 2 or less (FSM 2331.11c).

Facilities are limited to shelters, signs, sanitary, and safety needs in native, rustic materials. Use densities of PAOT per acre should range between .004 and .08 depending on the landscape's ability to absorb the sights and sounds of humans.

Roaded Natural: Timber harvest may be scheduled (see VQO direction under Visual Resource Management) and should meet "retention" or "partial retention" as seen from roads and trails. Access is generally single- or double-lane dirt or gravel roads. Road management objectives are to generally accept or encourage use by dispersed recreationists in highway vehicles. On some logging spurs or other single-purpose roads this use may be discouraged or eliminated. Dispersed area facilities should be level 2 or less and limited to trail shelters, boat ramps, and

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*See Trails Handbook (FSH 2309.18) for definition of difficulty levels.

safety needs in native, rustic materials. Use densities of PAOT per acre should range between .04 and 2.5 depending on the landscape's ability to absorb the sights and sounds of humans. Density range includes averaging in developed sites. The norm for developed sites should be development scale 3. FSM 2331.11c Mineral exploration and extraction may be appropriate but meeting adopted VQO.

Roaded Modified: Timber harvest is dominant but carried out within the NFMA regulation of being shaped and blended with the terrain. Stumps, skid roads, landings, and clearcut forms all may be dominant to the user. Road management objectives for local roads would often provide a complete mix of opportunities. provide a complete mix of opportunities. Access to dispersed campsites, berry fields, wood gathering areas, etc., is encouraged. Four-wheel drive and trail bike vehicles are encouraged on others with highway vehicles discouraged. Use on still others by all vehicles may be eliminated or prohibited to meet wildlife, safety, or other objectives. User-established sites should be left unaltered or, as a minimum, managed to maintain a dominance or mature forest character. Generally, no facilities are provided. Use densities of PAOT per acre should range between .008 and 1.2.

Opportunities for winter recreation will be developed and maintained where needed. Users and the general public will be encouraged to volunteer their efforts toward cleanup, maintenance, and development of recreation sites and facilities.

Subject to site-specific environmental analysis, recreational facilities (campgrounds, picnic areas, winter sport facilities, etc.) may be developed within any management area except wilderness, wild rivers, research natural areas, and those areas or parts of areas providing Primitive and Semiprimitive ROS opportunities.

Outfitter guide activities may be considered within any management area although outfitter camps will not be located within research natural areas.

Road, trail, and area closures and off-road vehicle use will be in accordance with the Forest Travel Plan and 36 CFR 295. This plan will be reviewed annually and revised as necessary, considering management needs and public desires.

The Comprehensive Management Plan for managing the Hells Canyon National Recreation Area is, by reference, incorporated and made a part of this Forest Land and Resource Management Plan. In accordance with the Comprehensive Management Plan, the Forest Service will prepare an annual operating plan which will provide for changes, if necessary, in river management including changes in reservation systems and site development schedules.

Visual Resource

Goal

To manage all National Forest lands to obtain the highest possible visual quality, commensurate with other appropriate public uses, costs and benefits.

Standards and Guidelines

A broad range of visual quality objectives may occur within any of the management areas. Visual quality objectives as outlined below will be met through management techniques described in National Forest Landscape Management, Volume 2, Chapter 5, and the Wallowa-Whitman National Forest Visual Management Plan - Desired Visual Model (maps showing visual objectives are available at the Forest Headquarters in Baker). See also map of Level I viewsheds (Figure IV-1 in the DEIS).

In retention foregrounds the area regenerated per decade should not exceed 7 percent or be less than 3 percent of the commercial forest land. Maximum area disturbed at any one time should not exceed 10 percent. Harvest unit sizes should range between 1/4 and 3 acres in size. Target size tree is 30".

In partial retention foreground the area regenerated per decade should not exceed 9 percent or be less than 5 percent of the commercial forest land. Maximum area disturbed at any one time should not exceed 14 percent of the commercial forest land. Harvest unit sizes may range between 1/2 and 5 acres. Target size tree is 25".

In partial retention middlegrounds the area regenerated per decade should range between 8 and 10 percent. Maximum area disturbed at any one time should not exceed 20 percent.

A created opening is considered to no longer be an opening, visually, when trees reach 20 feet in height. Rotation periods will be sufficient to grow large tree character in viewshed foregrounds.

Where conflicts develop between visual quality objectives and timber or range management objectives, these conflicts will be resolved in favor of meeting the visual objectives. Where conflicts occur between old-growth objectives and visual objectives, old-growth will have priority.

The following figure displays the visual quality objective for each sensitive level and variety class.

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VISUAL QUALITY OBJECTIVES

		Sensitivity Level						
		fg1	mg1	bg1	fg2	mg2	bg2	3
Variety Class	class A	R	R	R	PR	PR	PR	PR
	class B	R	PR	PR	PR	M	M	M* / MM
	class C	PR	PR	M	M	M	MM	MM

*If a 3B area is adjacent to RETENTION or PARTIAL RETENTION visual quality objective, select the MODIFICATION visual quality objective. If adjacent to MODIFICATION or MAXIMUM MODIFICATION objective areas, select MAXIMUM MODIFICATION.

Wildlife

Goal

To provide habitat for viable populations of all existing native and desired nonnative vertebrate wildlife species and to maintain or enhance the overall quality of wildlife habitat across the Forest.

Standards and Guidelines

Riparian habitat will be managed consistent with Forest Service Manuals 2500 and 2600. Where practical, the management objectives for stream shading, streambank stability, streambed sedimentation, grass-forb cover, shrub cover and tree cover, as described in Managing Riparian Ecosystem (Zones) for Fish and Wildlife in Eastern Oregon and Eastern Washington will be met.1/

Resources such as fish, certain wildlife and vegetation, and water which are dependent upon riparian areas will be given preferential consideration over other resources in actions within or affecting riparian areas.

1/ Riparian habitat subcommittee of the Oregon/Washington Interagency Committee. Managing Riparian Ecosystems (Zones) for Fish and Wildlife in Eastern Oregon and Washington, March 1979.

Where timber is managed in riparian areas, harvest will generally be by selection or by group selection techniques. Stands will be managed to provide habitat for snag-dependent wildlife species at not less than the 60 percent level of the optimum habitat as described in Wildlife Habitats in Managed Forests 1/ (including snags larger than 21 inches in diameter).

This will normally require a longer timber stand rotation than is used on areas managed more intensely for timber. In situations where even-aged silviculture will meet riparian area objectives, its application is acceptable. (Also see direction under Watershed Standards and Guidelines).

Existing and proposed populations of wild bighorn sheep will be managed according to Wild Bighorn Sheep Conflicts with Domestic Livestock and other Wildlife Ungulates on the Wallowa-Whitman Forest - A Summary Status Report and Interim Program Direction (January 1982 - on file at Forest Headquarters).

Introductions of other native or nonnative wildlife species, such as the Rocky Mountain goat, will be considered on a case-by-case basis through the NEPA process.

Dead trees, suitable for wildlife habitat, will normally be protected during commercial timber harvest operations and follow-up operations such as fuel treatment except when removal of such trees is required for safety reasons or when the objective of the timber sale is to harvest dead material.

Cutting snags for fuelwood may be restricted in areas where snag shortages occur.

Where management area direction mandates snag management or cover levels, these will be computed using techniques described in Wildlife Habitats in Managed Forests.1/ Dead trees will be given the highest priority to meet prescribed snag requirements. Where these are not present in adequate numbers or size, snag requirements may be met through the use of artificial nesting or roosting sites or by leaving trees containing merchantable volume and, if necessary, green trees. While snag levels may not be met on every acre at all times, the average levels for a given management area within any Total Resource Information (TRI) compartment will meet these levels through time.

Many lands considered unsuitable for timber production are scattered throughout Management Areas 1, 3 and 18. Trees on these lands may be retained for wildlife use.

Within 0.7 miles of any designated old-growth stand intended as pileated woodpecker habitat (any Management Area 15 area 300 acres or larger) an additional 300 acre feeding area will be designated. This will normally be in a single contiguous block although it may be arranged in blocks of 50 acres or larger, no more than 0.25 miles apart. Within these feeding areas

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1/ Thomas, Jack W. and Others. Wildlife Habitats in Managed Forests of the Blue Mountains of Oregon and Washington. Agriculture Handbook No. 553. Portland, OR: U. S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station: 1979.

a minimum of two hard snags per acre, at least 10 inches d.b.h., will be maintained. To the extent possible, these feeding areas will be located inareas such as wilderness, undeveloped dispersed recreation areas, or lands unsuited for timber management. Where necessary these feeding areas will be located in Management Areas 1, 3 or 18. In some instances it will be necessary to create hard snags of the proper size or leave live trees to provide future snags.

Activities that affect fish or wildlife resources will be coordinated with the appropriate State game management agency in accordance with formal agreement. This may include State involvement during scoping and at other stages of decisionmaking under the Forest Service NEPA process.

Predator control will be permitted as necessary to achieve management objectives in coordination and cooperation with U. S. Fish and Wildlife Service, the Oregon Department of Fish and Wildlife, and the Idaho Fish and Game Department. Such control will be in accordance with Forest Service Manuals 2600 and 2300.

Timber Management

Goal

To provide for production of wood fiber consistent with various resource objectives, environmental requirements and economic efficiency.

Standards and Guidelines

Lands disturbed as a result of timber management activities or road construction will be stabilized to control soil erosion. Stabilization methods and timing will recognize site-specific needs and objectives and will be decided through the NEPA process for individual projects or activities. (Also see Standards and Guidelines for Soils and Watershed.)

Selected silvicultural systems will, to the extent possible and within the intent of the land management objectives:

a. Permit the production of a volume of marketable trees sufficient to utilize all trees that meet utilization standards and are designated for harvest.

b. Permit the use of an available and acceptable logging method that can remove logs and other products without excessive damage to the identified desirable residual vegetation.

c. Be capable of providing special conditions, such as a continuous canopy or continous high density live root mats, when required by critical soil conditions or as needed to achieve particular management objectives, such as streamside protection, wildlife needs, and visual enhancement.

d. Permit control of vegetation to establish desired numbers and rates of growth of trees, as well as vegetation needed to achieve other management objectives identified in site-specific silvicultural prescriptions.

e. Promote a stand structure and species composition that minimizes serious risk of damage caused by mammals, insects, disease, or wildfire, and will allow treatment of existing insect, disease, or fuel conditions.

f. Be capable of achieving management objectives such as those for streamside protection, wildlife needs, and visual resources.

g. Develop manageable stands of at least five acres in size having a single future cultural treatment.

h. Consider dispersion of future regeneration harvest units in the treatment of existing stands. Where appropriate to achieving dispersion objectives for other resources, prescriptions will provide for regeneration harvest of portions of large stands which might otherwise be treated with a single commercial thinning.

i. Include consideration of fuel treatment commensurate with resource needs.

j. Be the most economical system to meet the desired objectives.

Emphasis will be placed on making waste wood residue from timber harvesting available for fuelwood gathering. Where this is impractical, residues in excess of those needed on-site will be disposed of by burying, broadcast burning, crushing, or other means, depending upon site-specific analysis. Economic and resource conditions may dictate several methods within one timber sale area.

Forest openings created by the application of even-aged harvest methods shall be limited to a maximum size of 40 acres. Exceptions are permitted for natural catastrophic events (such as fires, windstorms, or insect and disease attacks) or on an individual basis after a 60-day public notice period and review by the Regional Forester. In addition, the limits may be exceeded by as much as 50 percent without necessitating review by the Regional Forester or 60 days public notice when exceeding the limit will produce a more desirable combination of net public benefits and when any one of the following four criteria is met:

a. When a larger created opening will enable the use of an economically feasible logging system that will lessen the disturbance to soil, water, fish, riparian resources, or residual vegetation. Such lessening is to be achieved by reducing landing or road construction, by enabling such construction away from unstable soil, or by reducing soil and vegetation disturbance caused by dragging logs.

b. When created openings cannot be centered around groups of trees infected with dwarfmistletoe or root rot and therefore need to be expanded to include these trees in order to avoid infection of susceptible adjacent conifers.

c. When visual quality objectives require openings to be shaped and blended to fit the landform.

d. When larger openings are needed to achieve regeneration objectives in harvest areas being cut by the shelterwood method and where destruction of the newly created stand would occur as a result of delayed removal of shelter trees. This exception applies only to existing shelterwood units and to shelterwood units under contract prior to approval of the Forest Plan.

Created openings will be separated by blocks of land that generally are not classed as created openings and that contain one or more logical harvest units. These areas shall be large enough and contain a stand structure appropriate to meet resource requirements of the Forest Plan. Resource requirements may include wildlife habitat, watershed, landscape management, and others. Contiguous harvest units (cornering or otherwise touching) are not precluded, but must be considered as a single opening which must be created within requirements for size, exception procedures, and justification.

The total area of created openings contiguous to 30-acre or larger natural openings should normally be limited to an area not exceeding one-third the size of the natural opening and not occupying more than one-third of the natural opening perimeter. Openings should not be created adjacent to any natural openings (regardless of size) unless adequate vegetation along the edge can be developed or retained in sufficient density to protect wildlife values and visual quality objectives. The determination of adequate vegetation will be made by an appropriate interdisciplinary team.

A harvested area of commercial forest land will no longer be considered a created opening for silvicultural purposes when stocking surveys, carried out in accordance with Regional instructions, indicate prescribed tree stocking that is at least 4 1/2 feet high and free to grow. When other resource management considerations (such as wildlife habitat, watershed needs, or visual requirements) prevail, a created opening will no longer be considered an opening when the vegetation in it meets a particular management objective stated in the applicable management strategy.

Any harvests (regeneration or intermediate cuttings) which reduce stocking below 80 percent of the desired crop tree stocking level will be considered a regeneration harvest. They will, therefore, require provisions for establishing new stands and be subject to created-opening spacing constraints.

Slopes 30 percent or less will normally be harvested using ground-based logging equipment (tractors, rubber-tired skidders, low ground pressure equipment, etc.). Slopes greater than 30 percent will normally be harvested using short-reach cable systems, long-reach cable systems, or aerial systems.

Precommercial thinning in future regenerated stands will normally be accomplished before cut stems exceed two inches in diameter at ground level in order to avoid the need for slash disposal.

In some instances, notably naturally-regenerated ponderosa pine and Douglas-fir, the timber volume remaining following a shelterwood or seed tree regeneration harvest may not be adequate to cover the expense of a subsequent overstory removal. Where this occurs the remaining overstory may be harvested at the time of the next commercial entry.

Selection of reforestation methods will be made on a site-by-site basis during project-level analysis. This analysis will always consider the option of natural regeneration--even when natural regeneration cannot reasonably be expected to achieve adequate stocking levels within one to four decades. Occasions in which a failed planting project is followed by more than a single replanting are expected to be rare. Project planning for all replanting and fill-in planting will include economic analyses.

Areas which were identified during the Forest planning process as unproductive or technically unsuited for timber management will be reevaluated during site-specific analysis of adjoining lands. When this analysis shows these lands to be suitable for timber management they will be managed with the adjoining lands, consistent with the applicable management area direction. Conversely, when site-specific analyses show additional lands to be unproductive or unsuitable, timber management on these lands will not occur.

Commercial timber harvest may occur on lands identified as technically unsuited or unproductive (within management areas where harvest is not precluded) for the following purposes:

a. Salvage or sanitation harvesting of trees or stands substantially damaged by fire, windthrow, or other catastrophe or which are in imminent danger from insect or disease attack.

b. Cutting of individual trees or stands to test logging systems, to conduct experiments, or for the purpose of gathering information about tree growth, insect or disease organisms, or the effect of such harvesting on other resources.

c. Cutting of trees to promote the safety of Forest users. This includes hazard tree removal in camp and picnic grounds, in administrative sites, and along roads open to the public.

d. Harvesting to meet habitat objectives for threatened or endangered animal or plant species or to maintain or improve habitat for other wildlife or fish management indicator species.

e. Harvesting to improve the scenic resource by opening scenic vistas or by improving visual variety.

f. Harvesting of fuelwood and Christmas trees.

g. Harvesting to provide for access; for example road construction.

h. To permit the construction of recreation or administrative sites, roads, trails, or other facilities needed for the management of the Forest.

Timber utilization standards will be as specified in the Regional Guide.

Livestock Grazing

Goal

To make forage from suitable rangelands available for grazing by domestic livestock while developing the range resource to its highest efficiently attainable level.

Standards and Guidelines

Livestock grazing will be considered where forage is available and soil, topography, and vegetative conditions are suitable. Numbers, season of use, class of livestock, and management systems will be determined through project level (allotment) planning, consistent with management objectives for other resources as established in this plan. (Also see Standards and Guidelines for Watershed.)

Forage production will be at the most economically efficient level as determined through allotment management planning except where this conflicts with management area direction.

Allotments will be managed to achieve satisfactory range condition (the desired ecological status).

At the time this plan was written there apparently was sufficient forage for deer, elk and livestock on all game management units. There appeared to be no need to determine a forage allocation between the two classes of livestock (big game and livestock). However, should conflicts occur (such as lack of forage during extended dry periods) they will be resolved in favor of big game as long as big-game numbers do not exceed State big-game objectives in effect in 1985.

Insects and Disease (Pests)

Goal

Control Forest pests to levels that are compatible with resource objectives.

Standards and Guidelines

Integrated Pest Management (IPM) strategies will be utilized for early detection, suppression and prevention of Forest pests and to manage pests within the constraints of laws and regulations. IPM strategies include manual, mechanical, cultural, biological, chemical, prescribed fire, and regulatory means. Strategy selection will be based on environmental analysis.*

The Forest will aggressively pursue control and eradication of identified noxious weeds on lands where such activities are not precluded by management area direction. This will be accomplished through Forest activities and through coordination with county, State and other Federal agencies as funds permit.*

When the need to control noxious weeds or competing vegetation is identified, the selection of any particular treatment method will be made at the project level based on a site-specific analysis of the relative effectiveness, environmental effects (including human health), and costs of the feasible alternatives. Herbicides will be selected only if their use is essential to meet management objectives.

Monitoring and enforcement plans to implement specific measures will be developed for site-specific projects and described in the environmental analyses for these projects.

Miscellaneous

Standards and Guidelines

Catastrophes, such as those caused by insect epidemics, fire, or weather disturbances will not change the land allocation. The intent is still to achieve the conditions described for the management area. A catastrophe may result in the need for different methods or alter the time frame for achieving the objectives, but the objectives remain the same.

Natural grasslands and meadows will be recognized primarily for the forage value and habitat they provide. Encroachment of trees on meadows and other high forage-producing nontimbered sites may be prevented if such action is warranted based on site-specific analysis including consideration of other resource objectives.

The accommodation of other resource needs is encouraged within the intent of the primary resource objectives and budgetary constraints.

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*Plans for control of competing vegetation and noxious weed control (including use of herbicides) will be tiered to the Programmatic FEIS for Methods of Managing Competing Vegetation, USDA Forest Service, Pacific Northwest Region, June 1981 or subsequent NEPA documents.

MANAGEMENT DIRECTION SPECIFIC TO INDIVIDUAL MANAGEMENT AREAS

Introduction

Management strategies provide the multiple-use direction for managing specific areas of land called management areas. Each management strategy is described in terms of 1) a description which defines management objectives and specifies resource priorities, 2) direction, and 3) planning assumptions.

Planning assumptions are not intended as direction but provide background information on the expected results of the management direction as well as assumptions that were made in developing the planning model. An evaluation of the accuracy of the assumptions will be valuable for developing the next Forest Plan.

Management Strategy 1

Description

Management emphasizes wood fiber production on suitable timber lands while providing relatively high levels of forage and recreational opportunities. Temporary forage increases result from silvicultural activities. Timber is managed according to standards and guidelines common to all management areas (see Section 4.2).

Timber management provides a mixture of even-aged stands (uneven-aged stands may occur in riparian and visual emphasis areas within Management Strategy 1) up to 40 acres in size. These stands are to be managed at intensities promoting vigorous, healthy trees commensurate with the productive potential of the sites. Regeneration harvest units will be separated by uncut stands containing one or more logical logging units. Regeneration harvest of units adjacent to an existing regenerated unit will not be initiated until 80% of the desired crop tree stocking on the existing unit reaches 4 1/2 feet in height. This mixture of stand ages and sizes provides a degree of diversity for big game and other wildlife and a high level of wood fiber and forage production. Open roads are normally limited to 2.5 miles per square mile.

Direction

Watershed. No change from standards and guidelines.

Wildlife. No change from standards and guidelines.

Timber. Timber management will be used to convert unmanaged natural stands to vigorous managed stands. Even-aged management will be employed (except where visual or other management objectives require uneven-aged management) with tree spacing maintained to permit optimum growth toward the desired tree size. This may include precommercial thinning on regenerated stands. Silvicultural techniques will not normally include fertilization or irrigation although such practices are permitted, within budget constraints,

if an analysis shows them to be desirable. Regeneration will be by planting, natural means, or a combination of the two, depending upon the needs and capabilities of individual sites. Even-aged regeneration practices may be by clearcut, shelterwood, or seed tree methods.

Created openings will generally not exceed 40 acres in size and will be separated by blocks of land not classed as created openings. These blocks will contain one or more logical harvest units.

A harvest area of commercial forest land will be considered a created opening until 80% of the prescribed stocking level is reached and this stock consists of trees 4 1/2 feet, or greater, in height.

This management area will contribute to the Forest's regulated timber harvest.

Transportation. The transportation system will be designed, built, and maintained primarily for management of the timber resource but will consider all intended uses. The locations and numbers of roads will be determined by the logging systems which will provide the most suitable means of timber removal.

Local roads and some collectors will be seasonally or permanently closed, as needed, to provide soil or water protection. They may also be seasonally closed in accordance with the Forest Travel Plan for recreation, fire protection, wildlife or other purposes if this does not conflict with the timber management objectives. Roads open yearlong will generally not exceed 2.5 miles per square mile. Total road density will rarely exceed 5 miles per square mile.

Access for removal of fuelwood by the public will be encouraged, within soil and water constraints, in developing road management plans.

Trail needs will be analyzed. Those needed will be protected and maintained for future use.

Range. Protection of erosion seeding and tree plantations may be provided through changes in livestock management. In some instances grazing nonuse, fencing, or other means of control will be needed.

Recreation. Undeveloped campsites, hunter camps, or areas where concentrated recreation use occurs will be recognized as being significant in producing and utilizing dispersed recreation opportunities. Prescriptions for timber harvesting, cleanup, site preparation, and thinning will consider the environmental setting that contributes to the attraction of these sites for recreation purposes. The attempt will be made to retain this attractive character during and after treatments. Roaded modified recreation opportunities will be provided.

Visuals. No change from standards and guidelines.

Insects and Diseases. Suppress insects and diseases using the most cost-effective suppression strategies when outbreaks threaten resource management objectives. Activities might include stump treatment for root rots, application of pesticides for defoliators and cone insects, early harvest, stocking control, and species control. The most cost-effective strategy may be no action, which will be considered in the project analysis.

Landownership. Consolidate National Forest ownership where this will result in more efficient management and administration; acquisition will be primarily by exchange and should be planned so as not to substantially reduce timber outputs from (or, productivity of) the Forest.

Minerals. No change from standards and guidelines applicable to all management areas.

Fire. Prescribed burning from planned ignitions will be used to accomplish fire protection, site preparation, silvicultural, wildlife, and livestock objectives. In ecosystems where fire is not a useful treatment tool, fuel treatments other than burning will be used to reduce fuel accumulations to meet resource management objectives.

Slash management, in addition to hazard reduction, will provide for free movement of livestock throughout the area and prepare sites for reforestation. The lowest cost fuel treatment option which meets the resource management objectives will normally be selected.

Prescribed fire from unplanned ignitions will not be used due to the high resource values and the difficulty in controlling ignitions.

This area is high priority for suppression of wildfires. Suppression practices will be designed to protect the investment in managed tree stands and to prevent losses of large acreages to wildfire.

Fire prevention activities will emphasize industrial operations contacts and inspections. Industrial closures will be utilized as needed, based upon local fire weather conditions.

Snags that do not present a hazard to life or a threat to successful suppression action will not be felled.

The minimum acceptable suppression response for wildfires at all fire intensity levels will be "contain" (see glossary).

Planning Assumptions

Timber

- Lodgepole pine dominated stands will regenerate naturally, though instances of artificial regeneration may occur.

- Site preparation will occur prior to planting on 25 percent of tractor logged areas and 100 percent of other areas.

- Rodent control will be needed on 50 percent of the planted acres. This will normally be accomplished through trapping or poisoning.

- The time span between the regeneration harvest of a shelterwood and the final harvest is assumed to be ten years. Project-specific conditions may indicate the need for earlier or later removals. In the case of seed tree harvest, removal of the overwood may be delayed until the time of commercial harvest of the regenerated stand.

- The following regeneration lag times (years between regeneration harvest and adequate reforestation) are assumed:

Regeneration Method	Ponderosa Pine, Douglas-fir	Western larch, Engelmann spruce, True fir	Lodgepole pine
Planting	5 years	5 years	N/A
Natural	10 years	20 years	1 year

- A mix of shelterwood (including seedtree) and clearcut harvest regeneration techniques are assumed. These are as follows:

Regeneration Method	Ponderosa Pine, Douglas-fir	Western larch, Engelmann spruce, True fir	Lodgepole pine
Clearcut	5%	45%	100%
Shelterwood (including seedtree)	95%	55%	0%

- Managed timber stands will normally be harvested at the point of culmination of mean annual increment. This will be at 40-50 years for lodgepole pine and 80-100 years for other commercial species.

- It is assumed that site preparation and planting will be required in order to reestablish trees on sites where competition from ninebark is a problem.

- Genetically superior planting stock will be available.

Wildlife

- Long-term cover/forage ratios will provide high quality big-game habitat although habitat effectiveness will be reduced by the roads needed for timber management. In the short-term, cover shortages will substantially reduce habitat quality in some areas.

- Management of this area will result in an average elk habitat effectiveness index of 62 percent (long-term average) of potential (including discounting for roads), although individual sites may have higher or lower values.

- A high degree of wood fiber utilization will provide few down logs available for use by wildlife.

- Because of the relatively short rotation periods, snags larger than 21 inches in diameter will be rare in managed stands. Snags 12 to 18 inches in diameter will usually exceed 40 percent of the optimum habitat levels for cavity nesters through natural mortality in managed stands.

Watershed

- Timber harvest will result in temporary increases in streamflow.

- Timber harvest, road construction, and grazing will result in some reduction in water quality below natural conditions.

Recreation

- Trails will normally become unnecessary due to road access.

Range

- Existing livestock distribution problems will be solved as range allotment management plans are completed and implemented.

Fire

- All techniques and equipment are appropriate for use in suppressing wildfire, dependent upon the FIL and protection needs of the timber stand.

- The broadest application of prescribed fire will be in ponderosa pine stands.

- Some slash and larger dead material will be left as ground cover for soil protection, microclimates for the establishment of trees, and small mammal habitat.

Management Strategy 3

Description

Similar to Management Strategy 1, this management strategy provides a broad array of Forest uses and outputs with emphasis on timber production. However, timber management is constrained to ensure maintenance of high quality big-game (particularly elk) habitat and more challenging hunting opportunities.

When in a managed condition, timbered areas are a mosaic of even-aged stands, 40 acres or less in size. These stands are of different ages and are dispersed to provide a mixture of forage areas, thermal cover, and hiding cover. Regenerated trees must be ten feet tall before harvesting

adjacent units. Special restrictions apply to any harvest which reduces hiding or thermal cover. This is done to achieve optimum distribution of cover for elk. Open public road access is generally not more than 1.5 miles per square mile. Improved forage area and thermal cover distributions will help maintain or enhance elk herd productivity. Road access will be held at a low level as needed to maintain habitat quality and recreation values. The availability of big-game escape opportunities along with a low level of road access on summer ranges will provide a big-game hunting challenge not found in Management Strategy 1.

Direction

Watershed. No change from standards and guidelines.

Timber. Timber management will be similar to that of Management Strategy 1 but constrained to meet the above wildlife objectives.

Wildlife. Vegetation manipulation (precommercial thinning, regeneration harvest, and overstory removal) which converts a site from hiding or thermal cover to a forage status will be designed so that:

- On summer ranges not more than 20 percent of a treated area is more than 600 feet from a hiding or thermal cover patch at least 6 acres in size and not more than 900 feet from a patch of thermal cover at least 40 acres in size.

- On winter ranges not more than 20 percent of a treated area is more than 600 feet from a patch of thermal cover at least 40 acres in size.

A harvested area of commercial forest land will be considered a created opening until 80% of the prescribed stocking level is reached and this stock consists of trees 10 feet or greater in height.

This management area will contribute to the Forest's regulated harvest.

Isolated timber parcels which, because of the distance to other timbered parcels, cannot be managed within the above criteria will be managed to maintain or enhance their big-game cover values.

Because of low site productivity some sites do not have the potential to provide thermal cover as defined in the glossary. In these situations, stands which are functioning as thermal cover, even though they do not meet the strict definition, will be considered thermal cover in project design.

Transportation. The transportation system will be designed, built, and maintained primarily for the management of the timber resource but will recognize all intended uses. The locations and numbers of roads will be determined by the logging systems providing the most suitable means of timber removal.

Local roads and some collectors will be seasonally or permanently closed as needed to provide soil or water protection or if needed to meet biological requirements of big game. They may also be seasonally closed in accordance with the Forest Travel Plan for recreation, fire protection, or other

purposes. In general, roads left open year long on summer ranges will be limited to 1.5 miles per square mile although in some areas local conditions will necessitate higher densities. In some instances, less than 1.5 miles per square mile will be feasible. Where snow normally will provide an adequate level of road closure on winter ranges, additional closures to meet the 1.5 mile per square mile standard will not be necessary to meet road density requirements.

Winter ranges may be closed to snowmobiles if necessary to prevent conflicts with big game using winter range.

The need for access for removal of fuelwood by the public will be recognized and will be allowed for, within soil and water constraints, in developing road management plans. Where harvest entries are relatively infrequent, local roads which are not needed for 10 to 20 years will normally be closed following tree establishment. Roads not needed in the foreseeable future for timber management will be promptly closed to motor vehicles and returned to production.

Trail needs will be analyzed. Those needed will be protected and maintained for future use.

Range. No change from Management Strategy 1.

Recreation. No change from Management Strategy 1.

Visuals. No change from standards and guidelines.

Insects and Diseases. No change from Management Strategy 1.

Landownership. No change from Management Strategy 1.

Minerals. No change from standards and guidelines.

Fire. Slash treatment methods should favor prescribed burning when feasible. Prescribed burning from planned or unplanned ignitions will be used to achieve winter range management objectives, and maintain diversity within plant communities.

The minimum acceptable suppression response will be "confine" on FIL 1-2-3, and "contain" on FIL 4 and greater.

Snags that do not present a hazard to life or a threat to successful suppression will not be felled.

Planning Assumptions

Timber

- The thermal and hiding cover requirements in this management area will delay commercial harvest of some timber stands for one to seven decades, even though silvicultural need would indicate earlier entry.

- In some instances the need for thermal and hiding cover will delay or prevent precommercial thinning of existing stands; however, it is not expected that precommercial thinning of managed stands will be affected.

- Cover constraints will be most restrictive in earlier decades, become easier to meet as stands enter a managed condition.

- It is assumed that site preparation and planting will be required in order to reestablish trees on sites where competition with ninebark occurs.

Wildlife

- Application of this direction will result in an average elk habitat effectiveness index of 74 percent (long-term average) of potential (including discounting for roads), although individual sites may have higher or lower values.

- Because of the relatively short timber rotation periods, snags larger than 21 inches in diameter will be rare in managed stands. Snags 12 to 18 inches in diameter will usually exceed 40 percent of optimum habitat levels for cavity nesters through natural mortality in managed stands.

Transportation

- Snow will effectively close most winter range areas to access by wheeled vehicles during the winter months. Consequently, road closures more restrictive than those applied to Management Strategy 1 will not normally be necessary on winter ranges.

Watershed

- Timber harvest will result in temporary increases in streamflows.

- Timber harvest, road construction, and grazing will result in some reduction in water quality below natural conditions.

Range

- No change from Management Strategy 1.

Fire

- No change from Management Strategy 1.

Management Strategy 4 (Wilderness)

Description

The intent is to preserve the wilderness qualities of these areas. These areas will be managed in accordance with the Wilderness Act of 1964, P. L. 94-199 (establishing the Hells Canyon Wilderness), the Oregon Wilderness Act of 1984, and the 2320 section of the Forest Service Manual.

The intent of the Wilderness Act is to preserve and protect the natural condition and characteristics of designated lands and to provide for current and future public enjoyment of these areas and their wilderness character. These areas remain essentially unaltered and undisturbed by man, with natural ecological processes (including the natural role of fire) permitted to operate with a minimum of human interference.

Direction

See management direction for all wilderness lands in Table 4-4. (Maps showing wilderness recreation opportunity spectrum classes are available for review at the National Forest Headquarters and wilderness District Offices.)

Watershed. No change from standards and guidelines.

Wildlife. Wilderness designation precludes most types of wildlife habitat manipulation (see FSM 2300). Fish stocking and wildlife reintroduction will occur only where compatible with overall wilderness objectives. Specific areas where stocking or reintroduction may occur are identified in wilderness area management plans.

Trees. Trees will not be sold or cut for nonwilderness purposes except under specific conditions on valid mining claims.

Transportation. The transportation system within designated wilderness areas is limited to trails constructed for nonmotorized use. Access by motorized vehicle will normally be limited to emergencies. Entries for other purposes as provided by the Wilderness Act will be handled on a case-by-case basis. Helispot construction will not occur without Regional Forester approval.

Short-term trails and selected primitive trails may be abandoned. Design and maintenance of system trails will be to Regional trail standards. New trail construction and relocation will be considered for resource protection, visitor safety, and to provide a variety of wilderness experiences.

Range. Grazing by domestic livestock may occur where established prior to the Wilderness Act and will be managed consistent with the Wilderness Act. Range improvements (fences, water troughs, ponds, etc.) will be managed as described in FSM 2320.

Grazing of livestock and recreational animals may be restricted in areas that receive heavy recreation use. Grazing of recreational livestock will be managed to prevent site degradation. Sensitive riparian ecosystems such as lakeshores and adjacent terrain and wet meadows will be identified in each allotment management plan and prescriptions including utilization standards will be developed to maintain or enhance them.

Recreation. User group sizes, use of recreational livestock, camp site locations, and certain other activities may be constrained to protect resources and wilderness values. This may include closure of some areas to horse traffic, or other uses, if other techniques for controlling resource damage prove unsuccessful. Outfitter guide services will continue.

Meetings with wilderness user groups and outfitter guide associations will be held as needed to keep these organizations informed of wilderness management problems.

Primitive recreation opportunities will be provided.

Visuals. The visual quality objective is preservation.

Landownership. The objective is to retain all Federal land in Federal ownership and acquire non-Federal lands when available.

Minerals. Designated wilderness is closed to further mineral entry but mining on valid claims that existed prior to December 31, 1983, or establishment of the wilderness (whichever is later) may continue.

Fire. The minimum acceptable suppression response for wildfires burning at all FIL's is "confine".

Any unplanned ignition from natural causes (i.e., lightning) that occur in a designated wilderness will be a prescribed fire unless the decision is made to declare it a wildfire. This decision must be made on a case-by-case basis.

Suppression action on wildfires will give primary consideration to maintenance of wilderness quality standards. Evidence of suppression action will be minimized. Suppression techniques will be based upon the guidelines contained in WW-5100-16.

Prevention of human-caused wildfires should be emphasized through trailhead contacts and public education.

Any unplanned human-caused fire in wilderness will be declared a wildfire and have appropriate suppression action taken.

Prescribed fires from planned ignitions may be considered for use in any wilderness during this planning period.

Insects and Disease. Insect or disease outbreaks will not be artifically controlled, unless it is necessary to protect timber or other valuable vegetation outside the wilderness.

Other. Wilderness designation precludes wood gathering for home heating. While most of the area will be open for wood gathering coincidental with approved wilderness activities, some wood-short areas may be closed to wood gathering to protect wilderness values.

Planning Assumptions

Timber

- No commercial timber harvest will occur.

Watershed

- Water production is representative of that obtained from undeveloped areas. Recreation activities will not significantly reduce watershed condition or associated water quality. Some reduction in water quality below natural conditions will result from domestic livestock grazing.

Wildlife

- Timbered landtypes within this allocation will provide high levels of habitat for snag-dependent and solitude-dependent wildlife species.

- Allowing natural fire to burn some acreage will increase habitat diversity.

- Fish populations are likely to decrease in those lakes where fish stocking is discontinued.

- Old-growth forest will continue to occur within wilderness at approximately current levels.

Range

- Grazing of domestic livestock will continue at approximately current levels.

Fire

- Additional smoke in the Class I airshed will result from returning fire to a more natural role.

- In order to meet wilderness objectives some wildfires will exceed recent average fire size.

Table 4-4

The following direction applies to wilderness land that is in the Primitive (trailed) Wilderness ROS Class:

Primitive (Trailed) Description	Physical/Biological Setting Objectives	Social Setting Objectives	Managerial Setting
Area is characterized by essentially unmodified natural environment. Concentration of users is low and evidence of human use is minimal. The area is managed to be essentially free from evidence of man-inducted restrictions and controls. Only essential facilities for resource protection are used and are constructed of native or natural appearing materials. No facilities for comfort or convenience of the user are provided. Spacing of groups is informal and dispersed to minimize contacts with other group individuals. Experience Opportunity Extremely high opportunity for exploring and experiencing considerable isolation (from the sights and sounds of man); independence; closeness to nature; tranquility and self-reliance through application of primitive recreation skills in an environment that offers a high degree of challenge and risk.	Ecological Elements: A. Soil Displacement and erosion of soil resulting from human activity will be limited to a rate that closely approximates the natural process. Soil compaction should not exceed limits which will prevent natural plant establishment and growth, except at some campsites (see vegetation), administrative facilities, and designated trail tread. B. Water Maintain the natural quality of streams and lakes. Activities should not degrade water quality except for temporary changes which are transitory in nature; i.e., the water quality returns to its previous level when the activity ceases. C. Vegetation At more heavily used areas loss of ground cover should not exceed 200 square feet at any one site or 0.5% of any acre. There will be no loss of trees. There should be no long-term modification of natural plant succession	Encounters No more than 6 encounters with other traveling groups per day during 80% of the use season. Group Size Any combination of persons and recreation livestock not exceeding 12 (without written authorization). Written authorization for larger parties, not to exceed a total of 30 people and livestock combined may be provided where area objectives will accommodate them. The special use permit authorizing the large group will specify route of travel, camp locations, and other conditions necessary to meet management objectives. Camps Not more than one campsite should be visible from any campsite. Camps should be separated from other campsites and set back from trails, meadows, lakes and streams at least 200 feet. Livestock Grazing stock is permitted except in established camp	Off-site Evidence of Control Management control necessary to protect the ecological and social elements throughout the Region's Wilderness are evident outside Wilderness and at trailheads and boundary portals. Formal regulations, orders and/or permits may be necessary to achieve management objectives. Formal and informal user education programs will be initiated to inform users about what to expect and how to use the area for optimum benefit to all. Actions are designed to help meet management objectives not to promote use. On-Site Evidence of Control Periodic presence of wilderness rangers, technicians engaged in monitoring or project work, trail crews, etc. Management groups will conform to party size limitations, established social and ecological element standards, and where feasible work will be scheduled for low-use periods. Wilderness Rangers contact an average of 20% of the parties using the area during the peak use season. Signs Within the class provide minimum signing necessary to protect wilderness resources. User takes primary responsibility for personal safety. A maximum of two directional signs

Table 4-4 (Continued)

Primitive (Trailed) Description	Physical/Biological Setting Objectives	Social Setting Objectives	Managerial Setting
	as a result of man's activities on areas outside of accepted campsites, trails, and administrative sites. Acceptable modifications are those which will recover in one growing season. Dead standing (snags) and down vegetation should be managed to approximate natural conditions. All dead standing vegetation should be left in place. Dead down vegetation may be removed in amounts that can be replaced annually through natural accumulation. Vegetation impacts along trails will be confined to the planned location and design specifications of the trail. D. <u>Fish and Wildlife</u> Manage to allow natural ecological successions, including natural infestations of insects, to operate freely, insofar as they do not endanger significant resources outside wilderness. Maintain fish and wildlife indigenous to the area immediately prior to designation with emphasis on preservation of threatened or endangered species	areas. Recreation stock is held overnight outside foreground of lakes and streams away from camp areas and out of sight of trails. Commercial livestock grazing is permitted under approved management plans to the extent that such use is compatible with wilderness use and other resource values. <u>Pets</u> Pets must be under reliable voice control and/or physical restraint to protect both people and wildlife within this class.	with a maximum of two destinations per sign to be placed at trail junctions. Distances will not be provided. Geographic features will be labeled on maps but will not be signed. <u>Trails</u> New construction will be primitive. Trails will generally receive Level 1 and 2 maintenance and are to accommodate light moderate travel. Routes will be maintained only for resource protection and to protect the investment. The modification of natural environment would be minimal. The route should provide the user with an opportunity for testing skills and experiencing a sensation of physical exertion and a feeling of accomplishment.

Table 4-4 (Continued)

Primitive (Trailed) Description	Physical/Biological Setting Objectives	Social Setting Objectives	Managerial Setting
	Improvements and activities necessary for fish and wildlife management and in existence prior to designation are permitted and maintained provided work is performed with nonmotorized equipment and subject to management plan guidelines.		
	Chemical treatment of water permitted to prepare water for the reestablishment of native species, to establish endangered or threatened species or to correct undesirable conditions resulting from the influence of man.		
	Reestablishment of native species or establishment of an endangered or threatened species permitted provided the action is for correcting an undesirable condition resulting from influences of man.		
	Barren lakes and streams may be stocked after State and Forest Service agree that there will be no appreciable loss of scientific values or adverse effects on wilderness resources.		
	Control of problem animals permitted to reduce degradation on other wildlife and domestic livestock and to remove animals creating a public nuisance related to human interests.		

Table 4-4 (Continued)

Primitive (Trailed) Description	Physical/Biological Setting Objectives	Social Setting Objectives	Managerial Setting
	E. Visuals Site Modifications: Camping areas to be located on site within coniferous forest areas where possible. In all cases, sites should be located to take advantage of topographic and vegetative screening. Outside of coniferous areas where no vegetative or topographic screening is available camps to be located, where possible, outside foreground view (200') from lakes, trails, other camps and key interest features. Site design (trails and campsites) should encourage maximum dispersion of visitors.		

Table 4-4 (Continued)

Semiprimitive Description	Physical/Biological Setting Objectives	Social Setting Objectives	Managerial Setting
The following direction applies to wilderness land that is in the Semiprimitive Wilderness ROS Class:			
Area is characterized by predominately unmodified natural environment of moderate to large size. Concentration of users is low, but there is often evidence of other area users. The area is managed in such a way that minimum on-site controls and restrictions may be present but are subtle. Facilities are primarily provided for the protection of wilderness resource values. Materials of natural appearance are normally used. Spacing of groups may be formalized to disperse, use, and lessen contacts with other groups or individuals. Experience Opportunity Moderate opportunities for exploring and experiencing isolation (from the sights and sounds of man); independence; closeness to nature; tranquility and self-reliance through the application of no-trace woodsmanship and primitive recreation skills in a natural environment that offers a moderate to high degree of challenge and risk.	Ecological Elements A. Soils Displacement and erosion of soil resulting from human activity will be limited to a rate that closely approximates the natural process. Soil compaction should not exceed limits which will prevent natural plant establishment and growth, except at some campsites, (see vegetation), administrative facilities, and on designated trail treads. B. Water Maintain the natural quality of streams and lakes. Activities should not degrade water quality except for temporary changes which are transitory in nature; i.e., the water quality returns to its previous level when the activity ceases. C. Vegetation Maintain healthy, native vegetation around campsites. Loss of ground cover will not exceed 400 square feet at any one site or 1% of any acre. There will be no trees lost as the result of human activity. There should be no long-term modification of natural plant succession as a result of man's	Encounters No more than 12 encounters with other traveling groups per day during 80% of the summer season. Group Sizes Any combination of persons and recreation livestock not exceeding 12 (without) written authorization). Written authorization for larger parties, not to exceed a total of 30 people and livestock combined, may be provided where planning indicates area management objectives will accommodate them. The special-use permit authorizing the large group should specify route of travel, camp locations, and other conditions necessary to meet management objectives. Camps Campsites should provide a moderate degree of solitude. A maximum of two campsites may be visible or audible from any campsite. Camps should be separated from other camps and set back from trails, meadows, lakes and streams 200 feet where possible. Campsites may be designated by regulation and/or permit. Open fires may be banned or limited to designated sites only. Limited toilet facili-	Off-Site Evidence of Controls Management control necessary to protect the ecological and social elements throughout the Region's wildernesses are evident outside of wilderness and at trailheads and boundary portals. Formal regulations, orders, and/or permits will be necessary to achieve management objectives. Formal and informal user education programs may be initiated to inform users about what to expect and how to use the area for optimum benefit to all. Information Service actions are designed to help meet management objectives not to promote use. On-Site Evidence of Controls High to moderate presence of wilderness rangers who contact an average of 25 to 40% of overnight users. Percent contact depends on outdoor skill level of typical user groups. Management and research technicians engaged in monitoring or project work, trail crews, etc., will conform to established social and ecological standards unless specifically authorized. Otherwise, work will be scheduled for low public use periods where feasible. Signs Within the class, place the minimum number of signs necessary to protect the wilderness resources and for administration. A maximum of two directional

Table 4-4 (Continued)

Semiprimitive Description	Physical/Biological Setting Objectives	Social Setting Objectives	Managerial Setting
	activities on areas outside accepted campsites, trails, and administrative sites. Acceptable modifications are those which will recover in one growing season. Dead standing (snags) and down vegetation should be managed to approximate natural conditions. All dead standing vegetation should be left in place. Use should be managed to avoid the hazard. Dead, down vegetation may be removed in amounts that can be replaced annually through natural accumulation. Vegetation impacts along trails will be confined to the planned location and within the design specifications for construction. D. Fish and Wildlife Manage to allow natural ecological successions, including natural infestations of insects, to operate freely, insofar as they do not endanger significant resources outside wilderness. Maintain fish and wildlife indigenous to the area immediately prior to designation, with emphasis on preservation of threatened and endangered species freely, insofar, as they do not endanger significant resources outside wilderness.	ties are permissible at heavy use areas for resource protection and human safety. Livestock Recreational stock is permitted except in camp areas. Stock is held overnight outside foreground of lakes and streams and out of sight of camp areas and trails. Commercial livestock grazing is permitted under approved management plans to the extent that such use is compatible with wilderness uses and other resource values. Pets Pets must be under reliable voice control and/or physical restraint to protect both people and wildlife within this class.	signs with a maximum of two destination geographic features per sign to be placed at trail junctions. Geographic features will be labeled on maps but will not be signed. Signs may be used, if necessary, to direct users to designated campsites and toilets. Trails New construction will be primitive. Trails generally receive Level 1 or 2 maintenance and are managed to accommodate heavy use for the majority of the use period. The route will only modify natural conditions to the extent necessary to protect the environment and provide for safe use by a user with limited experience and average physical ability.

Table 4-4 (Continued)

Semiprimitive Description	Physical/Biological Setting Objectives	Social Setting Objectives	Managerial Setting
	Improvements and activities necessary for fish and wildlife management and in existence prior to designation are permitted and maintained provided work is performed with nonmotorized equipment and subject to management plan guidelines. Chemical treatment of water permitted to prepare water for the reestablishment of native species, to establish endangered or threatened species, or to correct undesirable conditions resulting from influence of man. Barren lakes and streams may be stocked after State and Forest Service agree that there will be no appreciable loss of scientific values or adverse effects on wilderness resources. Control of problem animals permitted to reduce degradation on other wildlife and domestic livestock and to remove animals creating a public nuisance related to human interests. E. Visuals Site Modification Camping areas should be located on sites within coniferous forest areas where possible. In all cases, sites should be located to take advantage of topographic and vegetative screening. Outside of coniferous forest areas where no vegetative or topographic screening is available		

Table 4-4 (Continued)

Semiprimitive Description	Physical/Biological Setting Objectives	Social Setting Objectives	Managerial Setting
	camps are to be located outside of foreground view (200') from lakes, trails and key interest features where possible. Site design (trails and camps) should remain subordinate to the natural landscape. 2. Visual Elements (form, line, color, texture) Man's activities are to remain subordinate in foreground distance zones (200'-300'). Man's activities should not be recognizable in middleground and background distance zones. 3. Materials Natural materials must dominate. Dimensional and non-native materials may be acceptable but must remain subtle to the wilderness user. 4. Facilities Facilities should remain subordinate in foreground distance zones (200' to 300') from trails, lakes, and key interest features. Should remain not evident and harmonious with natural landscape in middleground and background distance zones. Evidence of Man's Activities No permanent evidence unless site, structure, etc., qualifies as historically significant or is otherwise authorized by provision of the Wilderness Act and/or other legislation; or at designated campsites. Facilities, where provided, are of native materials and/or harmonize with the natural site.		

See the Wilderness Management Plan for each wilderness for additional specific direction that applies to each area.

Management Strategy 5
(Phillips Lake Area)

Description

This area includes the Mason Dam and Phillips Lake, and surrounding lands, as described in the Reservoir Area Management Plan of March 1971. The area is to be managed recognizing a variety of resource values with emphasis on recreation opportunities.

Timber resources are managed to provide an aesthetically pleasing forest for public enjoyment. Timber stands are managed in a thrifty condition with tree spacing providing a park-like appearance at least at some periods during a stand's life.

Direction

Watershed. No change from standards and guidelines.

Wildlife. Habitat management for wildlife will follow guidelines found in "Wildlife Habitat and Development Plan for Phillips Lake Management", approved in 1978.

Timber. Timber stands will be managed as visual foreground retention. Management will follow guidelines from National Forest Landscape Management, Volume 2, Chapter 5. Under a fully managed condition, the goal will be to have no more than 40 percent or less than 20 percent of the timber stands in any of the following stand conditions:

Ponderosa Pine/Douglas-fir and Mixed Conifer:

Seedlings and Saplings	-	0 - 4.9 inches DBH
Poles	-	5 - 10.9 inches DBH
Mature Timber	-	11 - 29.9 inches
Very Large Timber	-	30+ inches

Harvest units will be shaped and located to retain or create irregular appearance and diversity consistent with foreground retention.

This area contributes to the regulated timber harvest for the Forest.

Transportation. All construction and reconstruction of roads within the area will recognize heavy recreational use and associated safety hazards where recreationists and log trucks are operating on the same road. These safety problems will be dealt with during design, or with restrictions during use. All roads will be designed to the standards described in the Reservoir Area Management Plan. The area will be closed to off-road travel by motor vehicles.

Range. Use of vegetation by livestock, either by livestock grazing or for hay production, may occur within the primary objective of improving habitat for wildlife.

Recreation. Recreation management will be consistent with the Reservoir Area Management Plan.

Rural recreation opportunities will be provided.

Visuals. The visual quality objective is Retention.

Insects and Diseases. No change from standards and guidelines.

Landownership. Retain ownership and acquire additional identified lands that enhance recreation, visual, fish and wildlife values as the opportunity occurs. Acquisition of less than fee title will be considered if direction and land management objectives can be met.

Minerals. The area is withdrawn from mineral entry.

Fire. Prescribed burning from planned ignition may be conducted for improving the sites. Burning intervals will approximate the natural fire cycle in these groups. Use of prescribed burning should not be readily apparent to the casual observer two years after occurrence.

Wildfires will be suppressed in a manner that minimizes heavy equipment use wherever possible.

Fuel treatment methods will be consistent with the guidelines found in the National Forest Landscape Management, Volume 2.

The minimum acceptable suppression response for wildfires at all FIL's will be "contain."

Planning Assumptions

Timber

- Timber stands will be maintained in a healthy, vigorous growing condition throughout most of their rotation, although some trees will be retained for 200 years or longer to provide a big-tree component.

Wildlife

- Stands 120 years old and older will provide a level of habitat for wildlife dependent on large trees. However, the level of human activity and salvage of dead trees will prevent these stands from functioning as true old-growth.

Watershed

- Timber harvest will result in temporary increases in streamflow.

- Timber harvest, road construction, and grazing will result in some reduction in water quality below natural conditions.

Fire

- Optimum fuel loading at developed and dispersed campground areas will resemble Photo Series PNW 52-1-PP-4-PC.

- Fuel loading for areas outside developed and dispersed recreational influence zones will have more woody material on the ground than shown in PNW 52-1-PP-4-PC.

- Prescribed fire from unplanned ignitions will not be used in this management area.

Management Strategy 6

Description

Management emphasizes opportunities for those dispersed recreation activities usually recognized within the relatively high elevation areas (upper forest, subalpine, or alpine areas). The recreation activities usually involve combinations of viewing scenery, hunting, fishing, rock hunting, observing wildlife, snowshoeing, cross-country skiing, camping, hiking, backpacking, and harvesting of minor products such as mushrooms and berries.

These areas are to remain relatively natural and undeveloped. A road density level similar to 1982 levels will be maintained. Although recreational site development is not precluded within this management area the intent is to emphasize primitive, undeveloped recreation opportunities. These areas will be accessed largely by trail with some trails open to motorized use.

Direction

Watershed. No change from standards and guidelines.

Wildlife. No change from standards and guidelines.

Timber. Timber harvest may occur only in the event of a catastrophe such as a major fire or insect epidemic or to improve recreational or visual characteristics. These areas will not be scheduled as part of the Forest's regulated harvest. For the purpose of this management area a catastrophe is defined as not less than 100,000 board feet of salvageable material, located in a confined area, with a minimum of 5,000 board feet of salvageable material per acre. (In the event that a salvage area of smaller size or volume occurs near the boundary of one of these roadless areas exceptions may be made on a case-by-case basis.) The decision to harvest timber from this management area will not affect long-term management objectives.

Transportation. Roads and trails may be constructed to serve recreation needs. It may occasionally be necessary to build roads or trails through a portion of the area in order to serve needs of adjacent management areas. With discretion this practice is acceptable.

Roads constructed for mineral extraction or timber harvest following catastrophic fire or insect epidemic will be obliterated following use unless needed for recreation purposes.

Range. No change from standards and guidelines.

Recreation. Semiprimitive nonmotorized and semiprimitive motorized recreation opportunities will be provided.

Visuals. No change from standards and guidelines.

Landownership. Maintain Federal ownership and acquire lands, primarily by exchange, that enhance opportunities for dispersed recreation as the opportunity arises.

Minerals. No change from standards and guidelines.

Fire. The minimum acceptable suppression response in this strategy will be "confine" at all FIL's. Fire suppression will generally require use of hand tools rather than heavy equipment.

Prescribed burning from planned or unplanned ignitions may be conducted to meet resource management objectives.

A low level of fire prevention activity is appropriate within this area. Public contact will be concentrated on reaching the users prior to their entering the area.

A program to treat natural fuels buildup with prescribed fire will be developed.

Insects and Diseases. Insect or disease outbreaks affecting trees will not be artifically controlled unless it is necessary to protect resources in adjacent management areas. Noxious weeds may be controlled where cost effective.

Planning Assumptions

Timber

- Timber outputs will be negligible.

Watershed

- Watershed impacts are expected to be primarily those associated with recreation activities, a few roads, and grazing activity. Impacts on watershed condition and water quality are expected to be small.

Wildlife

- Natural tree mortality will provide snag habitat for snag-dependent species at nearly 100% of potential.

- Timber stands will continue to provide old-growth habitat at approximately current levels.

Transportation

- Roading densities will remain essentially unchanged from 1982 levels.

Range

- Any appropriate range management techniques may be used.

Minerals

- Management of this area is not expected to reduce mineral exploration or extraction opportunities.

Fire

- Fuel loading will consist of natural accumulations except as modified by prescribed burning.

- Optimum fuel loading will resemble Photo Series PNW 105-2-SA-4.

Management Strategy 7 (Recommended Wild, Scenic and Recreational Rivers)

Description

Management is intended to preserve the wild, scenic, and recreational values of those rivers or river segments which are recommended for inclusion in the National Wild and Scenic Rivers System. The objective is to maintain the characteristics of the recommended river sections at or above the minimum levels required for inclusion, pending an action by Congress or the Administration. Recommended rivers or river sections will be managed to maintain those characteristics which contribute to the recommended classification. (Also see Wild and Scenic Rivers Act, Public Law 90-542).

Direction

Watershed. Construction of water impoundments, diversions, straightening, rip-rapping, and other modifications of the waterways will normally not occur.

Wildlife. No change from standards and guidelines.

Timber. Timber harvest will not normally be scheduled along recommended wild, scenic, or recreational river segments, although harvest may occur for the purpose of salvage or to improve scenic or recreation values. Timber management activities will meet foreground retention visual quality objectives. These areas will not contribute to the regulated harvest for the Forest.

Range. Domestic livestock grazing may continue, consistent with the objectives for individual river segments. Range management structures will be made visually compatible with river classification.

Landownership. Retain Federal ownership until Congressional decisions are finalized. Consider acquisition of those lands that would be critical in maintaining the characteristics of the recommended river sections.

Minerals. Recommended rivers will be open to mineral entry prior to Congressional action. Formal designation by Congress as a wild river precludes further mineral entry but does not affect operations ongoing prior to the date of designation.

Insects and Diseases. No change from standards and guidelines.

Fire. In order to preserve water quality, retardant and heavy equipment will not normally be used in the proximity of wild rivers. Fire suppression activity along wild and scenic segments should protect the primitive nature of the area when possible.

Prescribed fire from planned and unplanned ignitions may be used, consistent with management direction for adjacent management areas.

The minimum acceptable suppression response to wildfires will be "confine" at FIL's 1-2-3, and "contain" for FIL 4 and greater.

Transportation. Development and maintenance of the transportation system will be consistent with wild, scenic, and recreational river objectives. Roads crossing recommended wild river segments or within one half mile of the river bank will not be constructed. Roads may occasionally cross or parallel scenic river segments provided scenic river values are not significantly compromised. Road construction and maintenance within recreational river segments will recognize the high scenic recreation and visual values associated with this classification.

Existing trails will be maintained. No new trails will be constructed.

Off-road vehicle use may be allowed to continue on existing routes. New open routes or areas will not be established.

The following rivers or river segments are recommended for inclusion in the National Rivers System:

River	Segment	Miles	Class**
Grande Ronde	Within National Forest boundary from Rondowa to 1/2 mile below Grossman Cr.	18	W*
Lostine	Wilderness boundary to Forest boundary	15	R
North Fork John Day	Nonwilderness portion	7	R

**(W-Wild: S-Scenic: R-Recreational)
*Will be coordinated with Umatilla National Forest and/or Bureau of Land Management. Subject to change depending upon the recommendation made for the entire eligible portion of the river.

Recreation. Primitive recreation developments will be permitted within wild river segments. Primitive or non-primitive development may occur along scenic or recreational segments. The Grande Ronde River will provide semi-primitive nonmotorized recreation opportunities. The Lostine and North Fork John Day Rivers will provide roaded natural opportunities.

River access points will be maintained. No new accesses will be established. Special use permits for outfitting and guiding will be issued. If analysis indicates that use is nearing capacity, a temporary limit may be set, pending formal classification and development of a management plan.

Segments recommended for wild river classification will be kept free of impoundments, generally inaccessible by road, essentially primitive, and unpolluted.

Segments recommended for recreational river classification will be managed primarily to protect and enhance existing recreational values. The primary objective will be to provide opportunities for engaging in recreation activities dependent on or enhanced by the largely free-flowing nature of the river.

Visuals. The visual quality objectives are retention along, wild scenic river segments, and partial retention along recreational river segments. Utility corridors will be located so as to not be visible from river segments.

Planning Assumptions

Watershed

- Watershed impacts will be insignificant in wild river segments. Minor amounts of erosion and soil compaction will be experienced at campsites, along trails, and possibly from livestock grazing.

Wildlife

- Timber land types within this strategy will provide nearly 100 percent of potential habitat for snag dependent wildlife species.

- Timber stands currently in an old-growth condition will provide old-growth habitat through this planning period.

Timber

- Timber harvest will be negligible.

Fire

- Appropriate suppression action will be taken on ignitions that threaten to burn into areas without authority for unplanned ignitions.

Management Strategy 8 (NRA Snake River Corridor)

Description

This area includes the wild and scenic river corridor along the Snake River within the Hells Canyon National Recreation Area. The primary emphasis is on maintaining the recreation experiences available at the time the area was established.

Direction

See the NRA Comprehensive Management Plan for detailed direction on management and administration.

Watershed. No change from standards and guidelines.

Range. Livestock grazing is permitted to the extent that it is compatible with range and river management objectives.

Recreation. Semiprimitive motorized recreation opportunities will be provided.

Visuals. The visual quality objective is partial retention.

Timber. No standing trees may be felled (dead or live) except as necessary, in the judgment of the Forest Service, for safety purposes. These areas will not contribute to the regulated timber harvest for the Forest.

Transportation. Road construction will be considered on a case-by-case basis to insure compatibility with wild and scenic river values.

Insects and Diseases. No change from standards and guidelines.

Wildlife. No change from standards and guidelines.

Landownership. Maintain Federal land in Federal ownership. Acquire scenic easements within the river corridor. Land purchase may be required where scenic easements will not meet the direction established in the Wild and Scenic Rivers Act.

Minerals. This area is closed to mineral entry.

Fire. A fire management action plan, as directed in the Comprehensive Management Plan, will be prepared. All wildfires that threaten life or property will be suppressed.

The restriction on open fires during fire season in this area will be continued.

The minimum acceptable suppression response to wildfires is "confine" at FIL's 1-2-3, and "contain" at FIL 4 and greater.

Prescribed burning from unplanned ignitions may be used consistent with management direction of adjacent areas.

Prevention efforts will usually be concentrated at launch sites and at river camp sites.

All fire management activities will be conducted consistent with the maintenance of visual qualities as outlined in National Forest Landscape Management, Volume 2.

Other. Dead logs or limbs lying on the ground or in the water may be used for campfires except for those that are specifically designated for retention.

Planning Assumptions

Timber

- There will be no commercial timber harvest.

Watershed

- Watershed impacts are expected to be minor, associated primarily with recreational activities and grazing. Impacts on water quality are expected to be negligible.

Wildlife

- Habitat for snag-dependent wildlife species will be provided at nearly 100 percent of potential (although there are relatively few timbered acres).
- Timber stands which are currently in an old-growth condition will continue to provide old-growth habitat through this planning period.
- Roost trees for wintering bald eagles will be retained.

Management Strategy 9
(NRA Dispersed Recreation/Native Vegetation)

Description

In these areas all activities will be managed to provide ample opportunities for dispersed recreation and to enhance native vegetation. It is envisioned that these areas will eventually be almost entirely occupied by native plant species. Range will be managed to maintain satisfactory range condition which will be achieved and maintained primarily by nonstructural means. These areas will provide a mix of primitive, semiprimitive nonmotorized and semiprimitive motorized recreation opportunities.

Direction

See the NRA Comprehensive Management Plan for detailed direction on management and administration.

Watershed. No change from standards and guidelines.

Wildlife. The exclusion of timber management activities will effectively preclude big-game cover manipulations, although fire may be used to provide forage diversity.

Timber. There will be no regulated timber harvest; however, measures necessary to protect timber on public or private lands from disease or insects are permitted.

Transportation. Road system development will be consistent with the transportation needs for the HCNRA as a whole. Off-road vehicle travel will not be permitted except for oversnow vehicles, subject to regulation under the Wallowa-Whitman Forest Travel Plan.

Range. Livestock grazing will continue consistent with native vegetation production objectives. Native vegetation will be enhanced through the use of appropriate range management techniques. Management will be designed to favor native vegetation over non-native vegetation. Athough no attempt will be made to eradicate non-native species, further introduction will be avoided. When necessary to control insects or noxious weeds, biological methods will be emphasized although abiotic methods are not prohibited.

Recreation. These areas will provide recreation opportunities as described in the semiprimitive motorized and semiprimitive nonmotorized categories of the Recreation Opportunity Spectrum.

Visuals. No change from standards and guidelines.

Insects and Diseases. No change from standards and guidelines.

Landownership. Retain these lands in Federal ownership and acquire the remaining non-Federal lands as directed by Congress.

Minerals. This area is closed to mineral entry.

Fire. Prescribed burning from planned or unplanned ignitions may be used. Fire suppression activities will be conducted to maintain primitive and semiprimitive recreation opportunities.

Minimum acceptable suppression response to wildfires will be "CONFINE" at FIL's 1-2-3 and "contain" at FIL 4 and above.

Planning Assumptions

Watershed

- Watershed impacts are expected to be minor, associated primarily with recreational activities and grazing.

Wildlife

- Natural tree mortality will provide snag habitat for snag-dependent species at 100 percent of potential.

- Timber stands which are currently in an old-growth condition will continue to provide old-growth habitat through this planning period.

Timber

- Commercial timber harvest will not occur.

Transportation

- Roading densities will remain essentially unchanged from 1982 levels.

Management Strategy 10 (NRA Forage Production)

Description

This management area lies within grasslands interwoven with timbered stringers in the Hells Canyon National Recreation Area. The grassland portions of these areas will be managed to provide maximum forage production with ranges maintained in satisfactory condition (desired ecological status) and structural improvements being rustic in nature. Timbered portions will provide old-growth habitat at approximately current levels.

Direction

See the NRA Comprehensive Management Plan for detailed direction on management and administration.

Watershed. No change from standards and guidelines.

Wildlife. Timber stringers will be managed as old-growth habitat.

Timber. Timber will be managed to maintain old-growth. Timber management, using selective harvest methods, may occur when desirable for wildlife habitat improvement, or to improve scenic or recreational values. All timber harvest will be part of the unregulated component of the timber base.

Transportation. No change from standards and guidelines.

Range. Any appropriate range management techniques may be used.

Structural improvements will utilize native materials or will otherwise be made to blend in with the surrounding landscape.

Recreation. This area will provide both semiprimitive motorized and semiprimitive nonmotorized opportunities.

Visuals. No change from standards and guidelines

Insects and Diseases. No change from standards and guidelines.

Landownership. Retain these lands in Federal ownership and acquire the remaining non-Federal lands as directed by Congress.

Minerals. This area is withdrawn from mineral entry.

Fire. Prescribed fire from planned and unplanned ignitions may be used to maximize forage production in nontimbered areas. In timbered areas being managed for old-growth, fire management direction is the same as in Management Strategy 15.

The minimum acceptable suppression response to wildfires is "confine" at FIL 1-2-3 and "contain" at FIL 4 and above.

Planning Assumptions

Timber

- Commercial timber harvest will be negligible.

Watershed

- Watershed impacts are expected primarily to be those associated with grazing.

Wildlife

- Natural tree mortality will provide snag habitat for snag-dependent species at 100 percent of potential.
- Timber stands which are currently in an old-growth condition will continue to provide old-growth habitat.

Fire

- Fire-killed trees in old-growth areas will be left standing to create snag habitat.

Management Strategy 11 (NRA Dispersed Recreation/Timber Management)

Description

These areas combine dispersed recreation with timber management on the more productive sites within the NRA. The objective is to provide a variety of tree species, a diversity of healthy timber stands and ample dispersed recreation opportunities.

Direction

See the NRA Comprehensive Management Plan for detailed direction on management and administration.

Watershed. No change from standards and guidelines.

Wildlife. Snags will be managed at a level providing habitat for snag-dependent species at 60 percent of optimum. Ten percent of the available commercial forest land will be retained in an old-growth condition.

Big-game habitat will be maintained at no less than 60 percent of the optimum potential size and spacing of hiding cover for any one TRI compartment.

Timber. Timber will be managed using the selective harvest systems. Acceptable silvicultural treatments include shelterwood harvest, individual tree selection, group selection, sanitation and salvage. Precommercial and commercial thinnings, with individuals thinnings not exceeding two acres, are permitted. Group selection for visual, recreation, wildlife, and tree regeneration purposes are permitted with a maximum opening size of two acres although exceptions may be permitted on a case-by-case basis.

Timber will be managed to provide a representation of five basic successional stages or age classes: grass-forb, shrub-seedling, pole-sapling, young timber, and mature timber.

These areas will contribute to the Forest's regulated timber harvest.

Transportation. Timber harvest roads will be the minimum necessary for haul of equipment and logs, consistent with protection of other resources. Timber harvest roads will be closed or left open as indicated by site-specific analysis considering all resources. Skidding across meadows, scablands, and natural openings larger than one acre will rarely occur and will include rehabilitation measures necessary to protect site productivity.

Range. All available range management techniques may be used to achieve satisfactory range conditions (desired ecological status).

Recreation. This area will provide roaded natural recreation opportunities.

Visuals. No change from standards and guidelines.

Insects and Diseases. No change from standards and guidelines.

Landownership. Retain these lands in Federal ownership and acquire the remaining non-Federal lands as directed or implied by Congress.

Minerals. This area is withdrawn from mineral entry.

Fire. Prescribed fire from planned and unplanned ignitions may be used for slash disposal, site preparation, and habitat modification to meet recreation or other resource objectives.

The minimum acceptable suppression response to wildfires is "confine" at FIL 1-2-3 and "contain" at FIL 4 and above.

Planning Assumptions

Timber

- Timber management will generally be by uneven-aged management techniques with an average entry period of 5-15 years for tractor ground and 15-25 years for steep ground requiring aerial logging systems. Except for old-growth, the entire area of available, capable, and suitable forest will be entered for the initial harvest within about 20 years, a rate of 5-7 percent per year. Diameter distribution cutting in precommercial tree sizes will occur on 30 percent of the forested land area at the time of commercial entry.

Wildlife

- As stands enter a managed condition, wood fiber utilization will leave only a moderate number of down logs available for use by wildlife. Occasional slash piles will be retained for small animal use. Optimum thermal cover for elk will be limited to old-growth timber stands within this management area (10 percent). Distribution of these old-growth patches may be less than optimum for elk thermal cover, though selective harvest will retain thermal cover values in many instances.

Watershed

- Streamflow increases as a result of timber management activities will be insignificant.

- Timber management, grazing, and road construction will result in water quality below natural levels.

Fire

- Selective harvest methods will generally limit the use of underburning because of diverse stand conditions; however, some opportunities may exist in fire-tolerant stands.

Management Strategy 12 (Research Natural Areas)

Description

Research Natural Areas (RNA's) are intended to promote and protect natural diversity. RNA's typify important forest, shrubland, grassland, alpine, aquatic, and geologic types and other natural situations that have special and unique characteristics of scientific interest and importance. Activities in RNA's are limited to research, study, observations, monitoring, and kinds of educational activities that are nondestructive and nonmanipulative.

A research natural area establishment report will be prepared for each recommended area. These studies will determine the boundaries of the areas. Until the establishment reports are signed by the Chief of the Forest Service, the areas designated by this plan are recommendations. The Indian Creek RNA has been established by the Chief.

Direction

Watershed. No change from standards and guidelines.

Wildlife. The introduction of non-native species will not be allowed.

Timber. Timber harvest will not occur unless for research purposes. These areas will not contribute to the regulated harvest for the Forest.

Range. Domestic livestock grazing may occur if consistent with the objectives for individual research natural areas.

Transportation. Roads and trails will normally be the minimum necessary to provide access for research and education objectives. Off-road vehicle use will be prohibited.

Research. In addition to the one existing research natural area, 13 areas are added to the Research Natural Area System:

Lightning Creek
Alum Beds
Boner Flat
West Razz Pond and Razz Lake
Bills Creek
Duck Lake
Government Draw
Indian Creek (existing RNA)
Pleasant Valley
Little Creek
Craig Mountain Lake
Mt. Joseph
Vance Knoll
Glacier Lake

Recreation. These areas will provide recreation opportunities similar to the management areas surrounding them. Those within wilderness will provide primitive recreation opportunities. Public recreation use will be discouraged if levels become so high as to be incompatible with the primary objective.

Visuals. No change from standards and guidelines.

Landownership. Retain these lands in Federal ownership and acquire private lands as opportunity or need occurs.

Minerals. Formally classified RNA's will be recommended for withdrawal from mineral entry.

Fire. Suppression activities will be designed to minimize site disturbance. Prescribed fires will be used only in conjunction with approved research projects.

The minimum acceptable suppression response will be "confine" at all FIL's.

Insects and Diseases. The decision on treatment of Forest pests will be made on a case-by-case basis.

Other. The gathering of fuelwood for commercial or home use will be prohibited.

Planning Assumptions

Timber

- There will be no timber harvest.

Watershed

- Watershed condition and water quality and quantity will approximate pristine conditions.

Wildlife

- Timber stands which are currently in an old-growth condition will continue to provide old-growth habitat.
- Natural tree mortality will provide snag habitat for snag-dependent species at 100 percent of potential.

Fire

- No fuel treatment activity will occur unless compatible with RNA objectives.
- Fuel will be allowed to accumulate at natural rates.

- Prescribed fires from unplanned ignitions will be used consistent with the management plans for specific RNA's.

Management Strategy 13 (Homestead Further Planning Area)

Description

This management area includes that portion of the Homestead Further Planning Area under Forest Service administration. The USDI Bureau of Land Management administers the larger portion of the Homestead area and is responsible for preparing a recommendation to Congress either for wilderness or nonwilderness use. This area will be managed to preserve wilderness characteristics until the detailed study can be completed.

Direction

Watershed. No change from standards and guidelines.

Wildlife. Wildlife habitat manipulation will be permitted provided it does not reduce the suitability or desirability of the area as wilderness.

Timber. Trees will not be sold or cut except under specific conditions on valid mining claims or under emergency conditions such as fire or insect and disease control.

Transportation. The transportation system within these management areas is limited to trails. Existing trails will be maintained. No new roads will be constructed until the wilderness question is decided.

Range. Grazing of domestic livestock may occur under the same guidelines as in wilderness. Range improvements will be managed as described in FSM 2320.

Recreation. Recreational uses will be limited to those which do not reduce the suitability of the area as wilderness. Off-road vehicles may be used, consistent with the Forest Travel Plan. This area will provide both semiprimitive motorized and semiprimitive nonmotorized recreation opportunities.

Visuals. The visual quality objective is preservation, pending completion of the wilderness study by the Bureau of Land Management.

Landownership. Retain in Federal ownership.

Minerals. No change from standards and guidelines.

Fire. Fire suppression activities will be designed to maintain future management options; prescribed fires from unplanned ignitions may be used to meet resource objectives.

The minimum acceptable suppression response at all FIL's will be "confine."

Insects and Diseases. Artificial control of Forest pests will occur only to protect values outside the further planning area.

Planning Assumptions

Timber

- No commercial timber harvest will occur.

Watershed

- Water quality and quantity are representative of that obtained from undeveloped areas. Recreation activities will not significantly reduce watershed condition or associated water quality. Some reduction in water quality will result from domestic livestock grazing.

Wildlife

- Timbered land types within this allocation will provide maximum potential habitat for snag-dependent and solitude dependent wildlife species.

Fire

- Heavy equipment will rarely be used in fire suppression activities.
- "No Trace" fire suppression standards will be used, as outlined in pamphlet WW-5100-16.

Management Strategy 14 (Starkey Experimental Forest and Range)

Description

This area includes the 27,051-acre Starkey Experimental Forest and Range. The area is allocated to research use and will be managed to protect existing research projects and provide for future research needs. In addition to its research contribution, the experimental forest is expected to provide a variety of other benefits including timber and livestock forage when compatible with research uses.

Direction

(Note: It is expected that standards and guidelines applicable to all management areas will normally be applied. However, standards and guidelines are not intended to restrict research activities.)

Watershed. No change from standards and guidelines.

Wildlife. No change from standards and guidelines.

Timber. Unless contrary to research objectives, timber will be managed using customary silvicultural techniques. This area contributes to the unregulated timber harvest for the Forest.

Transportation. No change from standards and guidelines.

Range. Livestock grazing has been traditional on the experimental forest as an experimental tool and is expected to continue. Utilization of forage by domestic livestock and wildlife will vary based on research needs.

Recreation. This area will provide roaded natural and roaded modified recreation opportunities.

Visuals. No change from standards and guidelines.

Insects and Diseases. No change from standards and guidelines provided preventive and suppressive techniques are consistent with research purposes.

Landownership. Retain in Federal ownership.

Minerals. The area has been withdrawn from mineral entry.

Fire. Wildfires will be suppressed using techniques consistent with research activities. Retardant will be used for wildfire suppression only with direct approval from the research project leader. Prescribed burning may only occur when compatible with research needs.

The minimum acceptable suppression response is "confine" at FIL 1-2-3 and "contain" at FIL 4 and above.

Other. To protect research, wood gathering for home heating will not normally be permitted. Exceptions to this policy may occur in special situations.

Additional direction for managing experimental forests is found in the 4000 section of the Forest Service Manual.

Planning Assumptions

Timber

- Timber output is difficult to predict because of changing research needs, although some utilization will occur.
- Timber management techniques and harvest cycles will be highly variable.

Watershed

- Timber harvest, livestock grazing, and other activities are likely to impact watershed condition although the degree, extent and frequency of impact are unknown.

Wildlife

- The quality of wildlife habitat in the future is unknown and will vary with research needs. Inherent characteristics of the area assure a high degree of habitat diversity and a relatively high level of big game hiding cover, thermal cover, and forage.

Fire

- This area has high priority for suppression of wildfire.

Management Strategy 15 (Old-Growth Forest)

Description

These areas are intended to maintain habitat diversity, preserve aesthetic values, and to provide old-growth habitat for wildlife.

There are 20 animal species on the Wallowa-Whitman which indicate definite preference for mature or old-growth forest. Examples of these are the marten, pileated woodpecker, and the northern three-toed woodpecker. Old-growth timber habitat represents the best habitat for these species. It is not known whether other habitats are sufficient to maintain viable populations of these species without an available reservoir of old-growth. These areas include timber stands at widely ranging elevations and aspects, and in a variety of plant communities. It is intended that these stands will continue to provide the quality habitat needed by those wildlife species dependent upon mature and old-growth timber and will provide a balance of vegetative condition.

Direction

Watershed. No change from standards and guidelines.

Wildlife. An old-growth stand is defined as any stand of trees ten acres or greater generally containing the following characteristics:

- Stands contain mature and overmature trees in the overstory and are well into the mature growth stage.

- Stands will usually contain a multi-layered canopy and trees of several age classes.

- Standing dead trees and down material are present.

- Evidence of man's activities may be present but does not significantly alter the other characteristics and would be a subordinate factor in a description of such a stand.

Ponderosa pine - The stands will contain at least ten mature to over-mature trees per acre with ponderosa pine or juniper representing 75 percent of the overstory canopy level. Stem size will be 21 inches or greater in the

overstory tree layer. Broken-topped trees may be present. Ponderosa pine bark will be furrowed and platy with color ranging from orange to yellow. A minimum of one standing snag, 21 inches or larger, per acre and at least 1.5 tons of down material including three logs per acre will be present.

Douglas-fir, white fir, spruce - These stands include both intolerant and tolerant species. The stands will contain at least 15 trees per acre 21 inches or more in diameter, two snags and at least three tons of down material including three downed logs per acre. Broken-topped trees may be present.

Within 0.7 miles of any designated old-growth stand intended as pileated woodpecker habitat (any Management Strategy 15 area 300 acres or larger) an additional 300-acre feeding area will be maintained. When possible, this feeding area will be in a single contiguous block although it may be arranged in blocks of 50 acres or larger, no more than 0.25 miles apart. Within these feeding areas a minimum of two hard snags per acre, at least 10 inches d.b.h., will be maintained. To the extent possible, these feeding areas will be located in areas such as wilderness, undeveloped dispersed recreation areas, or lands unsuited for timber management. Where necessary these feeding areas will be located in Management Strategies 1, 2, or 3. In some instances it may be necessary to create hard snags of the proper size or leave live trees to provide future snags.

Timber. Areas allocated to old-growth timber will have no scheduled timber harvest although salvage may occur following catastrophic destruction. Old-growth stands will be reevaluated each planning period to determine whether they still meet old-growth criteria. When an old-growth stand no longer meets the criteria, it will be returned to the regulated timber base and a new stand will be designated as old-growth. These areas will not contribute to the regulated harvest for the Forest.

Transportation. New road construction through old growth stands will be avoided. When it is necessary to build a road through an old-growth area, or where a road already exists, the road will be managed to retain the old-growth characteristics of the area including solitude. This will normally require seasonal or year-round road-use restrictions.

Range. No change from standards and guidelines.

Recreation. Roaded natural and roaded modified recreation opportunities will be provided.

Visuals. No change from standards and guidelines. These areas will retain a high level of visual quality.

Landownership. Retain in Federal ownership.

Minerals. Disturbance will be avoided to the extent practical.

Fuelwood. Individual old-growth stands may be closed to fuelwood cutting as needed to retain snags or provide solitude.

Fire. The minimum acceptable suppression response is "contain" at all FIL's. Minimal use of heavy equipment for fire suppression and prescribed burning will occur in order to protect old-growth characteristics, specifically snags and downed logs. Burned trees and snags should be cut only when they are a direct threat to personal safety or maintaining control. Machine firelines that provide future access into old-growth areas will be obliterated.

Insects and Diseases. Control of pests is encouraged where pests threaten destruction of an old-growth stand. Where destruction of the old-growth is not likely artificial control of pests will occur only when this can be accomplished without adverse effects of old-growth values.

Other. Where the presence of old-growth conflicts with visual resource objectives, old-growth will have priority.

Planning Assumptions

Timber

- No timber harvest will be scheduled for these areas.

Watershed

- No timber harvest-related watershed effects are expected. Grazing by livestock is expected to cause some increase in erosion and sediment production above natural levels.

Wildlife

- Areas allocated to this management area are currently functioning as old-growth and will continue to do so through this planning period.

- These stands will provide habitat for snag-dependent species at 100 percent of potential.

Insects and Diseases

- There will be a higher incidence of insects and disease than in managed stands.

Fire

- Optimum fuel loading will resemble Photo Series PNW 105-8-PP-4, and PNW 105-1-MC-4.

Recreation

- A high level of visual quality will normally be provided.

Management Strategy 16
(Administrative and Recreation Sites)

Description

These areas include all administrative sites such as work centers, fire lookouts, permitted ranch headquarters, campgrounds, seed orchards, and other areas which are occupied by facilities for administration, public recreation, or features of cultural significance. Also included are three summer home tracts.

Direction

Watershed. No changes from standards and guidelines applicable to all management areas.

Wildlife. Wildlife habitat management will be made compatible with the primary administrative or recreational objectives.

Timber. Timber harvest may occur to facilitate recreational, administrative or other uses or for safety reasons although this will not be part of the scheduled timber harvest for the Forest.

Transportation. Roads, parking lots, trails, and aircraft and boat landing facilities may be constructed as necessary to provide access to the sites or facilitate their use.

Range. Domestic livestock grazing will not normally be permitted although administrative stock may graze on some administrative sites.

Recreation. Recreation activity on administrative sites will be permitted which does not interfere with administrative or other uses for which the site is intended. Developed recreation sites will be managed according to FSM 2300. Recreation residences will be managed according to FSM 2700. These areas will provide roaded natural and rural recreation opportunities.

Visuals. No changes from standards and guidelines.

Landownership. Retain in Federal ownership as long as administrative use is warranted.

Minerals. The sites will normally be recommended for withdrawal from mineral entry.

Fire. The minimum acceptable suppression response is "contain" at all FIL's. Firelines constructed by hand will be favored over machine fireline.

Prescribed fire from unplanned ignitions will not be used in this management area.

Other. Permits for fuelwood removal will normally not be issued for these sites.

Insects and Diseases. Suppress and prevent pest and disease outbreaks including noxious weeds, with a minimum of disturbance to developments or users. Favor biological and silvicultural treatments.

Planning Assumptions

Fire

- Prescribed fire may be used to enhance the appearance of some sites or to meet recreation objectives.

Management Strategy 17 (Utility and Transportation Corridors)

Description

These areas are presently in use or proposed for the transport of gas, oil or electricity. Through proper design and management, optimum use will be made of those lands allocated to power facilities. To the extent possible use will be made compatible with other uses of the Forest including consideration of visual objectives. One Existing Utility Corridor (see Figures 4-2 and 4-3) is designated in order to facilitate authorization of future utility rights-of-way. It lies along Interstate Highway 84 west of La Grande and presently includes several facilities. Exclusion areas and avoidance areas are also identified.

Direction

Watershed. No changes from standards and guidelines.

Wildlife. No changes from standards and guidelines.

Timber. To the extent practicable, timber harvest will be planned as on adjacent lands. Timber harvest from suitable timberlands will contribute to the regulated timber harvest.

Transportation. Transportation systems will be designed and maintained primarily for the installation and maintenance of the structures associated with utility corridor although these sytems may also serve to access adjacent areas. When not being used for these purposes, these roads will normally be closed. In all cases, roads will be the minimum needed for their intended purpose.

Range. In many instances utility rights-of-way will provide forage usable by livestock and big game. Use of this forage will be directed by the applicable allotment management plan.

Visuals. These areas will be managed as described in National Forest Landscape Management, Volume 2, Chapter 2 (USDA Agriculture Handbook 478).

Cultural Resources. As displayed in Figure 4-3, a portion of the Oregon Trail and its management corridor are within the existing utility corridor along Interstate Highway 84. In most instances use of the utility corridor is not expected to interfere with the trail. However, if conflicts arise which cannot be satisfactorily mitigated, protection of the cultural resource values of the Oregon Trail will take priority over use as a utility corridor.

Recreation. Some forms of dispersed recreation are compatible with utility facilities although developed recreation often is not. These areas will provide roaded modified recreation opportunities.

Landownership. Retain in Federal ownership.

Minerals. No changes from standards and guidelines.

Fire. Complete slash disposal is desirable in most cases.

The minimum acceptable suppression response is "contain" at all FIL's.

Prescribed fire from unplanned ignition will not be used in this management area.

Insects and Diseases. No change from Standards and Guidelines.

Other utilities will be managed to create the least impact on National Forest resources. Wherever possible, utility rights-of-way will be designated to allow joint use of the rights-of-way.

Additional utility rights-of-way or corridors may be identified and approved subject to site-specific environmental analysis.

Planning Assumptions

Watershed

- Long-term effects on water quality and soil erosion will be minor, primarily associated with roads needed for installation and maintenance.

- Long-term streamflow increases will result from those corridors where a substantial reduction in tree cover is maintained. Since such a small acreage is involved the overall effect on Forest runoff is neglible.

Fire

- Prescribed burning may not be feasible once the facility is in place.

Figure 4-2

UTILITY & TRANSPORTATION CORRIDORS

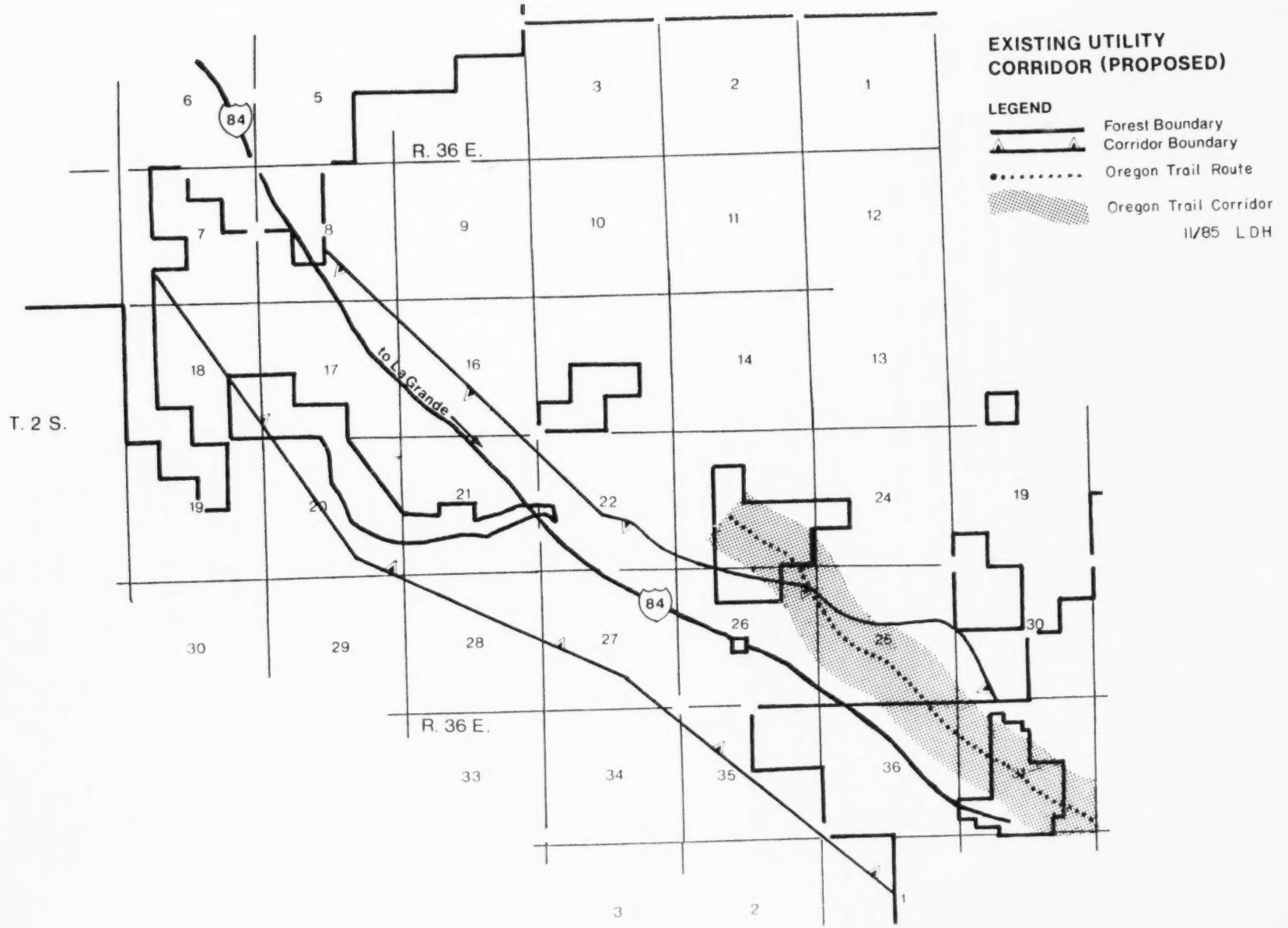
LEGEND

- National Forest Boundary
- Designated Corridor (proposed)
- Present Utility Lines
- (1) Hells Canyon National Recreation Area — Avoidance area
- (2) Avoidance areas
- (3) Exclusion areas (Wilderness)

LDH 4/85

Information on present utility lines from Pacific Power & Light Company using data from the Western Regional Corridor Study of May 1980

Figure 4-3


EXISTING UTILITY CORRIDOR (PROPOSED)
LEGEND
Forest Boundary
Corridor Boundary
Oregon Trail Route
Oregon Trail Corridor
11/85 LDH
R. 36 E.
R. 36 E.
T. 2 S.
to La Grande
84
84
6
5
3
2
1
7
8
9
10
11
12
18
17
16
14
13
19
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Management Strategy 18

Description

This strategy is intended to achieve and maintain optimum conditions for anadromous fish and provide near-optimum conditions for big game. Emphasis is placed on providing anadromous fish habitat at, or near, the maximum potential of the watershed where this strategy is applied. In most instances, it is expected that near-optimum habitat for big game can be provided simultaneously with anadromous fish habitat. Providing quality fish habitat takes priority over big-game habitat where conflicts occur.

The intent is not to maintain the watershed in a pristine condition; rather it is to manage all resources of the area using the most effective management techniques to assure that anadromous fisheries values are maintained or enhanced.

Direction

Management direction is the same as Management Strategy 3 except as follows:

Watershed. Streamside vegetation along all perennial streams will be managed to maintain an average of 80 percent of the stream surface shaded. Where natural stream shading is below this level, vegetation will be managed to provide not less than 85 percent of the natural level.

Wildlife. Riparian areas will be managed to achieve optimum conditions for fish and wildlife.

Enhancement and restoration will be practiced to produce anadromous fish habitat at 90 percent of the potential Smolt Habitat Capability Index (SHCI). Practices may include boulder placement, bank riprapping, vegetation planting, and the construction of log and rock weirs, log and rock deflectors, adult holding pools and spawning beds.

Trees immediately adjacent to perennial streams will be retained, as needed, for future instream habitat.

Timber. Timber harvest will be on a scheduled basis. Harvest may be by any means as long as fisheries and big-game objectives are met. Silvicultural prescriptions, reforestation methods, harvest schedules, and logging systems will be designed to achieve fisheries objectives.

Transportation. The major consideration in the design and maintenance of roads will be protection of fisheries values. Design, construction and maintenance will be adjusted, as needed, to protect fisheries values.

Local roads and some collectors will be seasonally or permanently closed as needed to provide soil or water protection. They may also be seasonally closed in accordance with the Forest Travel Plan for recreation, fire protection, or other purposes. In general, roads left open year-long will be limited to a maximum 2.5 miles per square mile although in some areas local conditions will necessitate higher densities. In some instances, less than 2.5 miles per square mile will be feasible.

The need for access for removal of fuelwood by the public will be recognized and will be allowed for, within soil and water constraints, in developing road management plans. Where harvest entries are relatively infrequent, local roads which are not needed for 10 to 20 years will normally be closed following tree establishment. Roads not needed in the foreseeable future for timber management will be promptly closed to motor vehicles and returned to production.

Trail needs will be analyzed. Those needed will be protected and maintained for future use.

Range. Ranges will be managed to protect and improve riparian vegetation and fish habitat.

Recreation. These areas will provide roaded modified recreation opportunities.

Visuals. No change from standards and guidelines.

Landownership. These lands are available for exchange where adjusting ownership patterns would be to the benefit of the Federal government and the other landowner, particularly where National Forest lands include only small isolated tracts that are costly to administer and contain no special resource features.

Minerals. Protect fish habitat investments.

Fire. The minimum acceptable suppression response is "contain" at all FIL's. Wildfire suppression will emphasize low-impact techniques to minimize effects on soil and water.

Insects and Diseases. Where cost effective and consistent with fish habitat objectives, practice high intensity prevention activities such as monitoring pest populations to be forewarned of outbreaks, stump removal for root rots, stocking control, species selection for plantings, timely salvage of weather-damaged timber, etc. Pesticides may be used only where this use can occur without adversely affecting fish habitat.

Planning Assumptions

Timber

- It is assumed that implementation of this strategy will result in a reduction in timber outputs of about 20 percent on those areas to which it is applied (Compared to Management Strategy 1).

- To provide for hydrologic recovery, watersheds which have been heavily harvested in recent years will have little or no additional harvesting for one or more decades.

Wildlife

- Long-term cover/forage ratios will provide high quality big game habitat although habitat effectiveness will be reduced by the roads needed for timber management.

- Management of this area will result in an average elk habitat effectiveness index of 74 percent of potential on summer ranges (including discounting for roads), although individual sites may have higher or lower values.

- Outside of riparian areas a high degree of wood fiber utilization will provide few down logs available for use by wildlife.

- Because of the short rotation periods, snags larger than 21 inches in diameter will be rare in managed stands. Snags 12 to 18 inches in diameter will usually exceed 40 percent of the optimum habitat levels for cavity nesters through natural mortality in managed stands. Large snags within riparian areas will approximate the 100 percent level.

Watershed

- Timber harvest will not result in increases in streamflow harmful to stream stability.

- Timber harvest, road construction and grazing will result in some reduction in water quality below natural conditions.

Range

- Existing livestock utilization and distribution problems will be solved as range allotment management plans are completed and implemented.

Chapter 5

IMPLEMENTATION OF THE FOREST PLAN

INTRODUCTION

Implementation of the Wallowa-Whitman National Forest Plan requires moving from an existing management program, with a budget and "targets" for accomplishment, to a new management program with a budget, goals, and objectives that provide a different way of addressing the issues and concerns people have voiced about Forest management. This Forest Plan establishes the direction for the Wallowa-Whitman National Forest for the next 10 to 15 years, when used in conjunction with Forest Service Manuals, Handbooks and the Pacific Northwest Regional Guide.

The remainder of this chapter explains how management of the Wallowa-Whitman National Forest moves from the Current Direction and Existing Situation to the Proposed Action, all described in the DEIS. The following sections describe aspects of implementation that are influenced by previous management activities and objectives; the relationship between project planning and this Forest Plan; the goals of and requirements for monitoring and evaluation; and the circumstances which could require the plan to be amended or revised.

IMPLEMENTATION DIRECTION

Project Scheduling

The schedule of proposed projects is contained in Appendix A of this document. Listings of possible projects to meet the ten-year management activity schedule are maintained by the unit managers. These listings will routinely change as projects are implemented, or are removed from the listings for other reasons, and as new projects take their place. Projects are scheduled in response to the planned output of goods and services and the annual budgeting process.

Consistency With Other Instruments

This Forest Land and Resource Management Plan, upon implementation, will supersede all present land management plans for the Wallowa-Whitman National Forest with the exception of the Comprehensive Management Plan for the Hells Canyon National Recreation Area. Land management plans superseded are those for the following planning units:

- Wallowa Valley
- Grande Ronde
- Burnt Powder
- Desolation
- Elgin

Also superseded are the present (1962 as amended) Timber Management Plan for the Wallowa-Whitman and those portions of the timber management plans for the Nezperce and Payette National Forests which affect the Wallowa-Whitman administrative area.

Subject to existing rights, all other contracts, cooperative agreements, or instruments for occupancy and use of lands will be brought into compliance with the plan no later than one year after the plan is enacted or as otherwise specified in Standards and Guidelines (Chapter 4).

Budget Proposals

The plan's scheduled projects are translated into multi-year program budget proposals that identify needed expenditures. The schedule is used for requesting and allocating the funds needed to carry out the planned management direction. Upon approval of a final budget for the Forest, the annual program of work is identified and carried out. Accomplishment of the annual program is the incremental implementation of the management direction of the Forest Plan. Outputs and activities in individual years may be significantly different from those shown in Chapter 4 depending on final budgets.

Environmental Analysis

Projects and activities permitted through this Forest Plan are subject to analysis under the NEPA process as they are planned for implementation. If the environmental analysis for a project shows that: (1) the management area prescriptions, standards and guidelines can be complied with and (2) little or no environmental effects are expected beyond those identified and documented in the Forest Plan Final EIS, the analysis will probably result in a categorical exclusion. An analysis file and/or a project file will be available for public review, but the analysis will not necessarily be documented in the form of an environmental assessment or environmental impact statement. In other instances the District Ranger, Forest Supervisor, or Regional Forester may decide to document the analysis through an environmental assessment or impact statement.

MONITORING AND EVALUATION PROGRAM

The Monitoring Plan, Table 5-1, identifies the key activities and outputs to be tracked during implementation of this plan to ensure that activities reasonably conform to the Management Area direction, and that outputs satisfy the objectives of the Plan. It also identifies where additional data are needed to improve the next generation Forest Plan.

At intervals established in this plan, implementation will be evaluated to determine how well objectives have been met and how closely management standards and guidelines have been applied. Based upon this evaluation, the Interdisciplinary Team shall recommend to the Forest Supervisor such changes in management direction, revisions, or amendments to the Forest Plan as deemed necessary. The results of this monitoring and evaluation may also be used to analyze the management situation during revision of the plan. In the monitoring plan "Precision" indicates the relative accuracy at which data are collected. "Reliability" shows how accurately the monitoring

measures the intent of the item. Precision and reliability are each rated as high (H), medium (M), or low (L). The "reporting period" indicates when a written report to the Forest Supervisor is required. "Responsibility" identifies the staff officer responsibility for the Forest-wide monitoring and reporting effort. It is recognized that District Rangers and others will have supporting monitoring responsibilities within Ranger Districts. In most instances it will be necessary to develop resource-specific monitoring plans describing monitoring techniques and locations.

AMENDMENT AND REVISION

The Forest Supervisor may amend the Forest Plan. Based on an analysis of the objectives, standards, and other contents of the Forest Plan, the Forest Supervisor shall determine whether a proposed amendment would result in a significant change in the Plan. If the change resulting from the proposed amendment is determined to be significant, the Forest Supervisor shall follow the same procedure as that required for development and approval of a Forest Plan. If the change resulting from the amendment is determined not to be significant for the purposes of the planning process, the Forest Supervisor may implement the amendment following appropriate public notification and satisfactory completion of NEPA procedures.

The Forest Plan shall ordinarily be revised on a 10-year cycle or at least every 15 years. It also may be revised whenever the Forest Supervisor determines that conditions or demands in the area covered by the Plan have changed significantly or when changes in RPA policies, goals, or objectives would have a significant effect on Forest level programs. In the monitoring and evaluation process, the interdisciplinary team may recommend a revision of the Forest Plan at any time. Revisions are not effective until considered and approved in accordance with the requirements for the development and approval of the Forest Plan. The Forest Supervisor shall review the conditions on the land covered by the Plan at least every 5 years to determine whether conditions or demands of the public have changed significantly.

Table 5-1
MONITORING PLAN

RESOURCE AREA	ACTION/EFFECT MONITORED	MIH CODE	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQ	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITY	1/ COST	THRESHOLD OF VARIABILITY	ACTION INDICATED
RECREATION	Off-road vehicles	A01	Avoid resource damage and/or user conflicts	Field observation, photo points, public comment		Cont.	Annual	L	M	TRI/ 2300 Files	Rec. Staff	1.0	NA	Revise Forest Travel Plan
	Recreation visitor needs and expectations	A08	Identify changing needs and expectations	Public comment		Cont.	10 yrs	L	M	2790	Rec. Staff	2.0	NA	Consider in Plan revision
	Proposed Wild/ Scenic River	A08	Ensure that desired attributes are maintained	Field observation and EA and project review		Cont.	As needed	H	H	1950	Rec/Pln Staff	0.3	Any change not acceptable as classified	Modify or cease project
	Visual Quality	A08	Ensure VQO's are met	EA and project review, routine observations		Cont.	2 yrs	M	M		Rec. Staff	1.0	VQO's not met when potential is documented	Modify or delete project
WILDERNESS	Wilderness Use		Comparison of actual wilderness use effects with objectives of the Forest Plan	Field Observations, rim response		Cont.	5 yrs	L	M		Rec. Staff	1.0	Resource damage user conflicts	Consider revision of wilderness plan
FISH AND WILDLIFE	Management Indicator Species	C01	Determine population trends	Field observation		5 yrs	5 yrs	M	M	2600	Rng, WL Wtrshed Staff	2.7	Significant downward trend	Amend projects or consider in plan revision
	Riparian zones	C01	Resource objectives achieved	Per "Managing Riparian Zones"	HEI	Cont.	5 yrs	M	M	TRI,Rip invent	Rng, WL Wtrshed Staff	8.6 2/	Objectives not met	Revise projects
	Fish habitat improvement	C01	Achievement of specified habitat improvement	Attainment Reports	Acre equiv. & SHCI	Annual	Annual	M	H	2600	Rng, WL Wtrshed Staff	5.0	Accomplishment 20% less than targeted	Adjust Plans for future years

1/ Thousand dollars spent annually for monitoring (estimate).
2/ First 5 years, $4,300 survey thereafter.

Table 5-1 (continued)
MONITORING PLAN

RESOURCE AREA	ACTION/EFFECT MONITORED	MIH CODE	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQ	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITY	1/ COST	THRESHOLD OF VARIABILITY	ACTION INDICATED
	Threatened endangered or sensitive wildlife species	C01	Verification of existing and potential habitat and meet recovery plan objectives	Monitoring for population trend done in conjunction with that for mgt. indicator species	Acres	Cont.	Annual	M	M	TRI	Rng, WL Wtrshed Staff		Habitat not adequate to support population recovery objectives.	Adjust management direction as necessary
	Threntened, endangered or sensitive plant species	C01	Same as for wildlife	Field surveys & recon in relation to timber sale & other activity, plus special searches	Acres	Cont.	5 yrs	M	M	TRI	Rng, WL wtrshed staff	2.0/yr	Decline in species population	Adjust mgt direction to reverse decline
	Old-growth & mature habitat	C01	Ensure designated habitat remains suitable	Through timber inventory once initial evaluation is completed.	Acres	Cont.	5 yrs	H	H	TRI	Rng, WL Wtrshed Staff	11.5 2/	Loss of any priority-one stand	Consider designation of replacement stand thru EA
	Snag habitat	C01	Track snag numbers	Snag inventory as part of projects, incidental observations	Numbers	Cont.	5 yrs	M	M	TRI	Rng, WL Wtrshed Staff	5.0	Snag numbers significantly different from prediction	Consider Plan amendment
	Elk winter range	C01	Refine or verify boundaries	Cooperative sampling with ODF&W and Idaho Dept. Fish & Game	Acres	Cont.	5 yrs	M	M	TRI	Rng, WL Wtrshed Staff	0.2	More than 20% error in winter range determination	Consider in Plan revision or amendment
	Elk habitat	C01	Determine total habitat effectiveness	Forest inventory, project analysis, and satellite imagery; coordinated with diversity monitoring	HEI	Cont.	3 yrs	M	M	TRI	Rng. WL Wtrshed Staff	3.0	Habitat effectiveness significantly different than projected	Consider in Plan revision or amendment

1/ Thousand dollars spent annually for monitoring (estimate).
2/ Fiscal years 88-92 only.

Table 5-1 (continued)
MONITORING PLAN

RESOURCE AREA	ACTION/EFFECT MONITORED	MIH CODE	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQ	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITY	1/ COST	THRESHOLD OF VARIABILITY	ACTION INDICATED
RANGE	Condition and trend	D02	Determination of condition and trend	Condition and trend transects, field observations		Cont.	5 yrs	M	M	Allotment mgt records	Rng, WL Wtrshed Staff	49.0	Continued downward or static trend in problem areas	Modify range practices as appropriate
	Allotment management plans	D01	Ensure management plans are developed and problem areas receive treatment	FSH & FSM 2200, inspection		Cont.	Annual	H	H	Allotment mgt plans	Rng, WL Wtrshed Staff	2.0	Two plans	Adjust goals or other action to be determined
	Riparian habitat improvement	D01	Assure that riparian objectives are incorporated into allotment mgt plans	Project EA's and allotment management plans.		Cont.	Annual	H	H		Rng, WL Wtrshed Staff	1.0	Lack of riparian objectives in management plan	Revise allotment management plan.
	Noxious Weeds	D02	Determine if standards and guidelines are met	Map records of species locations and treatment sites	Areas	Annual	3 yrs	M	H	TRI	Rng, WL Wtrshed Staff	1.0	Standards & Guidelines not met	Adjust project plans
TIMBER	Dispersion of openings	E00	Standards for size and dispersion are met	Sale reviews, EA reviews		Cont.	3 yrs	H	H	TRI	Timber Staff, Planning Staff	1.0	The unit size or dispersion fail objectives of plan.	Revise project
	Dispersion of openings	E00	Appropriateness of size limitations on cutting units	Sale reviews, EA reviews		10 yrs	10 yrs	M	M	TRI	Timber Staff, Planning Staff	0.5	Unit size limitations not achieving multiple resource objective	Consider in Plan revision

1/ Thousand dollars spent annually for monitoring (estimate).

Table 5-1 (continued)
MONITORING PLAN

RESOURCE AREA	ACTION/EFFECT MONITORED	MIH CODE	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQ	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITY	1/ COST	THRESHOLD OF VARIABILITY	ACTION INDICATED
	Allowable timber sale quantity		Amount offered consistent with plan by management area for:	Attainment reports, annual timber cut and sell report, 10-year timber sale program		Annual	Annual	H	H	2410 GATE data base	Timber Staff	1.0	Greater than 10% over or under plan	Adjust amount offered if over or under planned volume
		X06	Sawtimber		MMCF									None
		X07	Roundwood		MMCF									None
		X08	Charge personal use fuelwood		MMCF									
	Distribution of harvest	E00	Plan volumes by land class/ working group are achieved	5-year plan	MMCF by land class	Annual	3 yrs	H	H	2410	Timber Staff	1.0	Greater than 10% variation from projected distribution	Adjust 5-year plan
	Distribution of harvest	E00	Plan volumes and area by silvicultural method are achieved	5-year plan	MMCF & acres by silv. method	Annual	3 yrs	H	H	2410	Timber Staff	1.0	Greater than 20% variation from planned distribution	Consider adjusting 5-year plan
	Economics of timber harvest	E00	Identify uneconomic acres	Review of timber sale economical analysis	Acres	On-going	10 yrs	M	M	TRI	Timber Staff	1.5		Consider in Plan revision or amendment
	Technical suitability	E03	Ensure correct identification	EA reviews, sale reviews, stand exams	Acres	Cont.	5 yrs	M	M	TRI	Timber Staff/ Plan Staff	2.0	Greater than 5% change in suited acres	Consider in Plan revision
	Logging systems	E03	Coordinated with silvicultural prescriptions	EA review, timber sale review		Cont.	3 yrs	M	M	2410	Timber Staff	1.0	System is not compatible	Modify projects
	Regeneration	E04 and E01	Obtained within 5 years where applicable	Program review, field sampling, Silvicultural Accomplishment Reports	Acres	Annual	Annual	H	M	2410 TRI	Timber Staff	3.0	Greater than 20% plantation failure or greater than 50% below prescribed stocking	Rerun FORPLAN, consider plan revision

1/ Thousand dollars spent annually for monitoring (estimate).

Table 5-1 (continued)
MONITORING PLAN

RESOURCE AREA	ACTION/EFFECT MONITORED	MIH CODE	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQ	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITY	1/ COST	THRESHOLD OF VARIABILITY	ACTION INDICATED
	Timber stand improvement	E05	Projects accomplished on schedule	Program review, Silvicultural Accomplishment Reports	Acres	Annual	3 yrs	H	H	2410 TRI	Timber Staff	2.0	Accomplishment 10% less than programmed	Adjust ASQ by earned harvest factor
	Seedlings	E09	Superior progeny are planted as projected and growth monitored	Evaluation plantations developed, field sampling, silvicultural accomplishment reports	Acres Height	Annual	3 yrs	H	H	2410 2490	Timber Staff	1.0	More than 10% different from projected levels	Correct deficency in future projects. Consider in earned harvest calculations
AIR QUALITY	Visual air quality	P11	Assess impacts of Forest activities on baseline in Wilderness	Field sampling	TSP	Cont.	Annual	M	L		Rng, WL Wtrshed	1.2	Noncompliance with applicable stamdards	Adjust projects
SOIL	Soil compaction/puddling	F09	Compliance standards for compaction, erosion & puddling	EA review & field sampling	Acres	Cont.	2 yrs	H	H	TRI	Rng, WL Wtrshed Staff	6.0	Greater than 20% compacted or puddled	Modify project
	Soil and water improvement projects	F09	Accomplished as scheduled	Attainment reports	Acres	Annual	5 yrs	H	H		Rng, WL Wtrshed Staff	0.4	Scheduled attainment not achieved	Adjust in future years
	Cumulative effects on soil productivity	E00	Identify and document effects on productivity (compaction)	Sample sites in each working group following project completion	Percent change	Annual	5 yrs	M	M		Rng, WL Wtrshed Staff	6.6	Significant productivity loss	Incorporate in revision of plan and revise projects

1/ Thousand dollars spent annually for monitoring (estimate).

Table 5-1 (continued)
MONITORING PLAN

RESOURCE AREA	ACTION/EFFECT MONITORED	MIH CODE	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQ	REPORT PERIOD	PRECISION	RELIABILITY	DATA STORAGE	RESPONSIBILITY	1/ COST	THRESHOLD OF VARIABILITY	ACTION INDICATED
WATERSHED	Floodplain & wetlands	F09	Protection of values	Project reviews		Cont.	3 yrs	M	L		Rng, WL Wtrshed Staff	0.9	Floodplain or wetland values compromised	Revise project
	Water quality	F09	Compliance with standards and guidelines	EA and project review, project sampling		Cont.	3 yrs	M	H		Rng, WL Watrshd Staff	3.5	Failure to comply	Revise project
	Municipal watersheds		Ensure high water quality	Field sampling		Annual	5 yrs	H	M		Rng, WL Watrshd Staff	8.0	Reduction in water quality	Consider in Plan revision/ Revise projects
FACILITIES	Roads	L01	Assure that overall road planning, development environmental effects and costs are in line with the Forest Plan	Periodic review		3 yrs	3 yrs	M	M		Eng. Staff	1.0	Fails to meet plan objectives	Consider plan amendment
	Roads	L01	Density within Forest Plan objectives	Project design and EA review	Miles per sq. mile	Cont.	3 yrs	H	M	TRI	Planning Staff/ Eng. Staff	0.5	Road density exceeds objectives	Consider revision of project
PROTECTION	Prescribed fire	P11 P12	Ensure the use of prescribed fire is responsive to management area direction	Fire effects evaluation-Forest fuels management program plan		Cont.	Annual	M	M	5100 Files	Fire Staff	10.0	Fire prescription not responsive	Consider project revision/consider in revision of Forest Plan
	Fire management program	P01	Measure efficiency of program	Fire management efficiency index (FMEI) or R6 Fire Mgmt Analysis Process		Annual	Annual	H	M	5100 Files	Fire Staff	5.0		Consider in Plan revision or amendment

1/ Thousand dollars spent annually for monitoring (estimate) for monitoring (estimate).

Table 5-1 (continued)
MONITORING PLAN

RESOURCE AREA	ACTION/EFFECT MONITORED	NIH CODE	OBJECTIVE OF MONITORING	METHOD OF MONITORING	UNIT OF MEASURE	FREQ	REPORT PERIOD	PRECI-SION	RELIA-BILITY	DATA STORAGE	RESPON-SIBILITY	1/ COST	THRESHOLD OF VARIABILITY	ACTION INDICATED
	Wildfires	P01	Monitor actual acres burned	Individual fire report(5100-29)	Acres	Annual	5 yrs	L	M	5100 Files	Fire Staff	3.0		Consider in Plan revision
	Wilderness fire management program	P01	Evaluation of program	W-W 5100-29 T post-fire review		Annual	3 yrs	M	M		Fire/Rec Staff	1.0		Consider in Plan revision
	Fuel treatment	P11	Ensure methods meet Forest Plan objectives	Timber sale BD reports and activity reviews		Annual	2 yrs	M	M	5100 TRI	Fire Staff	3.0	Failure to meet objectives	Revise project
	Insect and disease	P34	Ensure levels within tolerable limits considering management direction	Aerial survey and routine observation	Acres	Annual	Annual	H	H		Regional Pest Mgt Staff, Tbr Staff	1.5	NA	Consider in plan revision
Planning	Monitoring program	J22	Evaulation of program	Review of monitoring elements for completion	No. completed	Annual	Annual	H	H	1920	Plan Staff & mgt. team	0.5	Elements not completed	Complete
	Economics	J22	Determine accuracy of assumptions and data used in plan	Review of 2400-17 reports, unit summary reports, PNW Experiment Station publications, annual Forest KV guides, RIM reports, ODF&W reports, Census reports, hydrologic reports, and attainment reports.		Various	Annual	M	M	1920	Plan Staff	2.0		Consider in Plan revision

1/ Thousand dollars spent annually for monitoring (estimate).

Chapter 6

GLOSSARY

These definitions apply to Forest Service land management and planning. Meanings may differ when used in other contexts. A source code is shown for each definition, and is found at the end of the glossary. Some definitions were shortened, paraphrased, or adapted to fit local conditions.

Source

1 Abiotic - Not involving or produced by organisms.

10 Acre-Foot - The volume (as of irrigation water) that would cover one acre to a depth of one foot.

11 Aerial Logging - A timber yarding system employing aerial means, e.g., balloons or helicopters, to lift the log or logs.

1 Age Class - The average age of the timber stand in decades.

1 Allocated Funds - Those funds transferred to the Forest from other agencies (including those from the Land and Water Conservation Fund, the Department of Labor, and the Soil Conservation Service) or provided from the K-V, Brush Disposal, Co-op Road Maintenance, or Purchaser Road Credits accounts.

Allotment - See Range Allotment.

3 Allowable Sale Quantity - The quantity of timber that may be sold from the area of suitable land covered by the Forest Plan for a time period specified by the plan. This quantity is usually expressed on an annual basis as the "average annual allowable sale quantity." (It is the same as total chargeable volume.)

1 Amenity Values - An expression of the aspects of pleasantness or desirableness commonly associated with recreation, scenic and wildlife-related experiences.

5 Anadromous Fish - Those species of fish, spawned in fresh water, which mature in the sea, and migrate back into fresh water streams to spawn. Salmon, steelhead, and shad are examples.

1 Analysis Area - The most specific classification of land used for allocation or scheduling within FORPLAN.

18 Animal Unit - Considered to be one mature (1,000 lb.) cow or the equivalent based upon average daily forage consumption of 26 lbs. dry matter per day.

18 Animal Unit Month (AUM) - (1) The amount of feed or forage required by an animal-unit for one month. (2) Tenure of one animal-unit for period of one month.

1 Appropriate Suppression Response - An action on a wildfire that minimizes cost plus net value change.

2 Appropriated Funds - Funds from the U. S. Treasury which Congress has authorized an agency to obligate.

AUM - See Animal Unit Month.

1 Available - Land which has not been administratively or legislatively withdrawn from timber production.

1 Available Forage - The amount of forage which may be removed without adversely affecting the vigor of the forage plants. (Normally considered to be about 50 percent of a grass plant.)

7 Basal Area - The area of the cross section of a tree stem near its base, generally at breast height, 1.37 meters (4.5 ft) above the ground and inclusive of bark.

5 Base Flow - That portion of the water flowing in a stream which is due to ground water seepage into the channel.

3 Base Sale Schedule - A timber sale schedule formulated on the basis that the quantity of timber planned for sale and harvest for any future decade is equal to or greater than the planned sale and harvest for the preceding decade, and this planned sale and harvest for any decade is not greater than the long-term sustained yield capacity. (Includes only chargeable timber volume.)

10 Batholith - A great mass of intruded igneous rock that for the most part stopped its rise a considerable distance below the surface.

1 Benchmark - A reference point for a particular analysis.

1 Benefit-cost Ratio - Measure of economic efficiency, computed by dividing total discounted benefits by total discounted costs.

2 Best Management Practices - A practice or combination of practices determined by a State (or designated area-wide planning agency) after problem assessment, examination of alternative practices, and appropriate public participation to be the most effective, practicable (including technological, economic, and institutional considerations) means of preventing or reducing the amount of water pollution generated by nonpoint sources to a level compatible with water quality goals.

1 Big Game - Large mammals hunted for recreation or meat; refers to elk and mule deer when used in this document and not otherwise qualified.

1 Biological Carrying Capacity - The number of animals that an area can sustain due to the condition of various habitat factors.

3 Biological Growth Potential - The average net growth attainable in a fully stocked natural forest stand.

1 Biological Needs - The combination of habitat factors necessary to sustain an organism throughout normal life processes.

10 Biotic - of or relating to life; especially: caused by living beings.

1 Biscuit Scabland - Also termed biscuit-swales, mounded topography, and patterned ground. For the purpose of this document biscuit scabland means natural mounds surrounded by or interspersed with either shallow-soiled swales or scabland. The mounds, typically composed of medium-textured soils, are normally capable of supporting a dense cover of grasses, forbs, and occasionally shrubs. The swales, typically rocky with somewhat coarser textured soils, are normally sparsely vegetated with grasses, forbs, and moss. The scablands are either devoid of vegetative cover or are vegetated by grasses and moss.

10 Board Foot - A unit of quantity for lumber equal to the volume of a board 12 inches x 12 inches x 1 inch.

12 Broadcast Burn - Allowing a prescribed fire to burn over a designated area within well-defined boundaries for reduction of fuel hazard or as a silvicultural treatment, or both.

10 BTU (British Thermal Unit) - The quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit at or near 39.2 F.

10 Canopy - The uppermost spreading, branchy layer of a forest.

7 Canopy Closure - The progressive reduction in space between tree crowns as they spread laterally (Ford-Robertson 1971); a measure of the percent of potential open space occupied by the collective tree crowns in a stand.

3 Capability - The potential of an area of land to produce resources, supply goods and services, and allow resource uses under an assumed set of management practices and at a given level of management intensity. Capability depends upon current conditions and site conditions such as climate, slope, landform, soils, and geology, as well as the application of management practices, such as silviculture or protection from fire, insects and disease.

1 Capability Area - A combination of land type and working group which describes the biological potential of the land and the physical limitations on realizing that potential.

Capable - See Commercial Forest Land

1 Chargeable - Volumes of timber that are included in calculating regulated timber sale schedules and charged to that harvest in determining target achievement.

2 Class I Stream - Perennial or intermittent streams (or segments thereof) that are direct sources of water for domestic use, or are used by large numbers of fish for spawning, rearing or migration, or flow enough water to be a major contributor to the quantity of water in a Class I stream.

2 Class II Stream - Perennial or intermittent streams (or segments thereof) that are used by moderate though significant numbers of fish for spawning, rearing or migration, have a moderate influence on a Class I stream, or are a major contribution to a Class II stream.

2 Class III Stream - All other perennial streams or segments thereof not meeting higher class critiera.

2 Class IV Stream - All other intermittent streams not meeting higher class criteria.

5 Clearcutting - Removal of virtually all the trees, large or small, in a timber stand in one cutting operation. Leads to the establishment of an even-aged stand.

7 Climax - The culminating stage in plant succession for a given site where the vegetation has reached a highly stable condition.

CMAI - See Culmination of Mean Annual Increment.

CFR - Code of Federal Regulations.

1 Coefficients - The average amount of commodity or amenity value that can be expected from one acre of land in one year under a certain management prescription.

12 Commercial Forest Land - Forest land tentatively suitable for the production of continuous crops of timber and that has not been withdrawn.

11 Commercial Thinning - Any type of thinning of trees producing merchantable material at least equal to the value of the direct costs of timber harvesting.

12 Commodity - A transportable resource product with commercial value; all resource products which are articles of commerce.

Common Minerals - See Common Varieties.

2 Common Varieties - Mineral deposits which, although they may have value for use in trade, manufacture, the sciences, or in the mechanical or ornamental arts, do not possess a distinct, special economic value. Examples include common varieties of sand, stone, gravel, pumice, pumicite and cinders.

7 Community Types - A generalized category comprising a number of similar stands of vegetation and including animal life.

2 Confine - As used in reference to fire, to restrict a wildfire within determined boundaries established either prior to the fire, during the fire, or in an Escaped Fire Situation Analysis.

1 Conflagration - A large and destructive fire (see Wildfire).

Constant Dollars - See Real Dollars.

2 Contain - As used in reference to fire, to surround a fire, and any spot fires therefrom, with control line as needed, which can reasonably be expected to check the fire's spread under prevailing and predicted conditions. May refer to a wildfire "contained" by topographic or geologic features, such as non-flammable cliffs or talus slopes.

2 Control - In wildfire suppression, to complete the control line around a fire, any spot fires therefrom and interior islands to be saved; burn out any unburned areas adjacent to the fire side of the control line; and cool down all hot spots that are immediate threats to the control line.

3 Corridor - A linear strip of land identified for the present or future location of transportation or utility rights-of-way within its boundaries.

12 Corridor Avoidance Area - Area with high resource values which are in conflict with power transmission facilities. Used for power facility corridors only when other reasonable choices are not available.

12 Corridor Exclusion Area - Area from which power transmission facilities will be excluded. Classified wilderness is the most common example.

12 Full Corridor - Approximately 600 feet wide (or wider where existing corridor is wider).

12 Utility Corridor - A strip of land, up to approximately 600 feet in width, designated for the transportation of energy, commodities and communications, by railroad, state highway, electrical power transmission (66 KV or more), oil, gas and coal slurry pipelines 10 inches in diameter and larger, and telecommunication cable and electronic sites for interstate use.

12 Existing Utility Corridor - A strip of land containing one or more existing linear utility rights-of-way which, in the current Forest planning effort, are being included within the designation of a full 600-foot utility corridor in order to facilitate future authorization of additional utility rights-of-way.

12 New Utility Corridor - A strip of land containing no existing linear utility right-of-way, but warranting designation as a full corridor.

12 Critical Window - A control point or area (such as a mountain pass) not to be designated within an existing utility corridor, but needed to retain future new utility corridor options.

12 Transportation Corridor - A strip of land of variable width designated to accommodate the clearing and access control and visual resource limits of a highway or road facility, which may also be designated to accommodate one or more linear utilities.

2 Cost, Fixed - A cost that is committed for the time horizon of planning or the decision being considered. Fixed costs include fixed ownership requirements, fixed protection, short-term maintenance, and long-term planning and inventory costs.

2 Cost, General Administration, Fixed - A cost of line officers, their immediate clerical staff, and common services (such as joint-use facility and equipment management). It is a fixed cost.

2 Cost, General Administration, Variable - A general administration cost that varies with levels of program activities, including program support (personnel, fiscal and accounting, data processing, and similar functions). Such costs are prorated over all other fixed and variable costs.

2 Cost, Investment - A cost of creating or enhancing capital assets, including costs of administrative or common-use transport facilities and resource management investments.

2 Cost, Non-Forest Service - A cost of investment and operating activities paid by cooperators or other non-Forest Service agencies, which are part of Forest Service management programs or which contribute to the outputs included in the analysis.

2 Cost, Operational - For the National Forest System, a cost of activities to plan and manage controlled outputs, and for long-term protection and maintenance of capital assets. For State and Private Forestry and Research, operational costs include program activity costs. They are variable costs.

2 Cost, Variable - A cost that varies with the level of controlled outputs in the time horizon covered by the planning period or decisions being considered. Variable costs include investment, operational, and variable general administration.

7 Cover - Vegetation used by wildlife for protection from predators, to ameliorate conditions of weather, or in which to reproduce. See Hiding Cover - Thermal Cover.

7 Cover/Forage, Cover-Forage Area Ratio - The ratio, in percent, of the amount of area in forage condition to that area in cover condition; the criteria by which potential deer and elk use of an area is judged.

12 Created Opening - An opening in the forest created as the result of even-aged silviculture through clearcutting, group selection, or shelterwood regeneration timber harvest systems.

1 Critical Habitat - That habitat designated by the Secretary, USDI, as critical to the continued survival of threatened or endangered species.

Critical Window - See Corridor.

7 Crop Tree - Any tree forming, or selected to form, part of the final crop; generally a tree selected in a young stand for that purpose.

7 Crown Closure - See Canopy Closure.

11 Crown Fire - A fire that runs through the tops of trees, scrub or brushwood.

1 Culmination of Mean Annual Increment (CMAI) - The age at which the annual increment of growth of a timber stand reaches its maximum.

2 Cultural Resources - Buildings, sites, areas, architecture, memorials, and objects having scientific, prehistoric, historic, or social values.

1 Cunit - One hundred cubic feet of wood chips.

1 Current Direction - The combination of activities dictated by laws, regulations, the Forest Service Manual, and existing unit plans.

DBH - See Diameter at Breast Height.

12 Deferred Forest Land - Productive forest land that has been administratively identified for study as possible addition to the National Wilderness Preservation System or otherwise withdrawn from timber utilization under authority granted in the Code of Federal Regulations (CFR).

2 Deferred Rotation System - A type of grazing management where the grazed area is divided into two or more pastures. One or more of the pastures are grazed for only part of the grazing season. The following season the period of use is rotated.

2 Demand Analysis - A study of factors affecting the schedule of demand for an output, including the price-quantity relationship if applicable.

2 Demand Schedule Curve - A schedule of quantities of an output that users are willing to take at a range of prices, at a given time, and conditions of sale.

1 Departure - Any timber harvest schedule which does not meet the definition of nondeclining evenflow.

12 Developed Recreation - Outdoor recreation requiring significant capital investment in facilities to handle a concentration of visitors on a relatively small area. Examples are ski areas, resorts and campgrounds.

18 Diameter at Breast Height (DBH) - The diameter of a tree 4.5 feet above average ground level, except that in National Forest practice it is measured from the highest ground level. Abbreviated dbh. The additional abbreviations, ob and ib are used to designate whether the diameter refers to the measurement outside or inside the bark.

2 Discount Rate, Nominal - Discount rate expressed in terms of current dollars, and thus affected by the rate of inflation.

2 Discount Rate, Real - A discount rate adjusted to exclude the effects of inflation.

12 Dispersed Recreation - Outdoor recreation in which visitors are diffused over relatively large areas. Where facilities or developments are provided, they are more for access and protection of the environment than for the comfort or convenience of the people.

3 Diversity - The distribution and abundance of different plant and animal communities and species within the area covered by a land and resource management plan.

1 Drop Camp - A camp where an outfitter furnishes transportation only. Clients provide all their own gear. Everything is packed in at the start of the trip and everything is packed out at the end of the trip.

1 Ecoclass - A classification system for identification and mapping of basic vegetative resources and their characteristics.

7 Ecosystem - An interacting natural system including all the component organisms together with the abiotic environment.

7 Edge Effect - The increased richness of flora and fauna resulting from the mixing of two communities where they join, as at the edge of a meadow.

2 Efficiency, Economic - The usefulness of inputs (costs) to produce outputs (benefits) and effects when all costs and benefits that can be identified and valued are included in the computations. Economic efficiency is usually measured using present net value,

though use of benefit-cost ratios and rates-of-return may sometimes be appropriate.

1 Empirical Yield Table - A table showing, for one or more given species on a given site, the progressive development of a timber stand at periodic intervals covering the greater part of its useful life. This table is prepared on the basis of actual average stand conditions.

12 Endangered Species - Any species of animal or plant which is in danger of extinction throughout all or a significant portion of its range. Plant or animal species identified by the Secretary of Interior as endangered in accordance with the 1973 Endangered Species Act, as amended.

12 Environment - The aggregate of physical, biological, economic, and social factors affecting all organisms in an area.

2 Environmental Analysis - An analysis of alternative actions and their predictable short- and long-term environmental effects, which include physical, biological, economic, social, and environmental design factors and their interactions.

2 Environmental Assessment - A concise public document which provides sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement or a Finding of No Significant Impact. It aids in compliance with the NEPA when no Environmental Impact Statement is needed.

5 Environmental Impact Statement - A document prepared by a Federal Agency in which anticipated environmental effects of a planned course of action or development are evaluated.

1 Essential Habitat - That habitat identified in forest planning as essential to the continued survival of threatened or endangered species; an interim classification of habitat prior to formal designation of critical habitat by the Secretary, USDI.

3 Even-age Management - The application of a combination of actions that results in the creation of stands in which trees of essentially the same age grow together. Managed even-aged forests are characterized by a distribution of stands of varying ages (and therefore tree sizes) throughout the forest area. The difference in age between trees forming the main canopy level of a stand usually does not exceed 20% of the age of the stand at harvest rotation age. Regeneration in a particular stand is obtained during a short period at or near the time that the stand has reached the desired age or size for regeneration and is harvested. Clearcut, shelterwood, or seed tree cutting methods produce even-aged stands.

Evenflow - See Nondeclining Evenflow.

Existing Utility Corridor - See Corridor.

1 FIL - See Fire Intensity Level.

Final Removal - See Overwood Removal.

1 Fire Risk - Potential for a fire start, natural or human-caused.

1 Fire Intensity Level - Fire intensity level; a measure of heat released over time by the flaming front of a fire; indicated by flame length (i.e., FIL 1 = 0-2 ft; FIL 2 = 2-4 ft).

2 Flood Hazard - A general term meaning the danger to life or damage to property from overflows of a river or stream channel, extraordinary waves or tides occurring on lake, estuary, or ocean shores; flood flows in intermittent or normally dry streams; floods on tributary streams; floods caused by accumulated debris or ice in rivers; or other similar events.

2 Floodplain - The lowland and relatively flat areas joining inland and coastal waters (including debris cones and floodprone areas of offshore islands) including, at a minimum, that area subject to a 1% (100-year occurrence) or greater chance of flooding in any given year.

7 Forb - Any herbaceous plant species other than those in the Gramineae (grasses), Cyperaceae (sedges), and Juncaceae (rushes) families; fleshy-leaved plants.

3 Forest Land - Land at least ten percent occupied by forest trees of any size or formerly having had such tree cover and not currently developed for nonforest use.

1 FORPLAN - A linear program computer model intended to display long and short-term resource interactions in forest management.

7 Fuel Break - A lane through forest or rangeland from which most combustible material, including trees and shrubs, has been removed or markedly reduced to prevent spread of fire.

1 Fuel Hazard - A supply of fuel that forms a special threat of ignition or suppression difficulty.

14 Fuel Type - An identifiable association of fuel elements of distinctive species, forms, sizes, arrangements or other characteristics that will cause a predictable rate of fire spread or difficulty of control under specified weather conditions.

Full Corridor - (See Corridor).

3 Goal - A concise statement that describes a desired condition to be achieved sometime in the future. It is normally expressed in broad, general terms and is timeless in that it has no specific date by which it is to be completed. Goal statements form the principal basis from which objectives are developed.

3 Goods and Services - The various outputs, including on-site uses, produced from forest and rangeland resources.

13 Ground Fuel - That fuel lying on or within six feet of mineral soil surface.

Group Selection - See Selection Cutting.

1 Guideline - An indication or outline of policy or conduct.

7 Habitat - The sum total of environmental conditions of a specific place occupied by a wildlife or plant species, or a population of such species.

7 Hard Snag - A snag composed primarily of sound wood, particularly sound sapwood; generally merchantable.

HCNRA - Hells Canyon National Recreation Area.

7 Herbicide - A chemical substance used for killing plants.

7 Hiding Cover - Vegetation capable of hiding 90 percent of a standing adult elk from the view of a human at a distance equal to or less than 61 meters (200 feet); generally, any vegetation used by elk for security or escape from danger.

2 Impact Analysis Area - The delineated area subject to significant economic and social impacts from Forest Service activities included in an economic or social impact analysis.

2 Impact Analysis Subarea - A specific area within an analysis area that is subject to localized economic or social impacts from Forest Service activities.

2 Impact, Economic, Direct - Impacts, caused directly by forest product harvest or processing, or forest uses.

2 Impact, Economic, Indirect - Impacts that arise from supporting industries selling goods or services to directly-affected industries.

2 Impact, Economic, Induced - Impacts resulting from employees or owners of directly or indirectly-affected industries spending their income within the economy.

1 Implementation Plan - Detailed action document that translates the selected land management alternative into on-the-ground instructions.

1 Implementation Schedule - The rate at which a management strategy is implemented.

5 Indicator Species - A plant or animal species so highly adapted to a particular kind of environment that its mere presence is sufficient indication that specific conditions are also present.

1 Individual Tree Selection - The selection of trees for harvest based on individual tree characteristics rather than on characteristics of trees as a group.

1 INTEGER - A computer model used to integrate Forest social and economic data.

3 Integrated Pest Management- A process for selecting strategies to regulate forest pests in which all aspects of a pest-host system are studied and weighed. The information considered in selecting appropriate strategies includes the impact of the unregulated pest population on various resources values, alternative regulatory tactics and strategies, and benefit and cost estimates for these alternative strategies. Regulatory strategies are based on sound silvicultural practices and ecology of the pest-host system and consist of a combination of tactics such as timber stand improvement plus selective use of pesticides. A basic principle in the choice of strategy is that it be ecologically compatible or acceptable.

5 Interdisciplinary Team (ID Team) - A group of individuals with differing training assembled to solve a problem or perform a task.

11 International Rule - In the measurement of lumber, a formula log rule allowing 1/2 inch taper for each 4 feet of length and 1/8 inch shrinkage for each one-inch board.

Intolerant - See Tolerance.

1 K-V - (Knutson-Vandenberg Act) An act of Congress which among other things authorizes the Forest Service to use funds collected from timber sales for tree planting, timber stand improvement and other forest uses.

13 Ladder Fuels - Those fuels which tend to be continuous between the ground fuels and tree crowns, forming a "ladder" by which fire may spread into the tree crowns.

1 Landing - A site where logs, harvested during a timber sale, are stored prior to removal from the Forest.

1 Land Management Planning - The process of organizing the development and use of lands and their resources in a manner that will best meet the needs of people over time, while maintaining flexibility for a combination of resources for the future.

7 Land-type - Particular combinations of land features and plant community types used to predict responses to timber management practices.

7 Life Form - A group of wildlife species whose requirements for habitat are satisfied by similar successional stages within given plant communities.

2 Lifestyle - The characteristic way people live, indicated by consumption patterns, work, leisure, and other activities.

5 Linear Program - A mathematical method used to determine the most effective allocation of limited resources between competing demands when both the objective and the restrictions on its attainment can be expressed as a system of linear equalities or inequalities.

2 Locatable Minerals - In general, the locatable minerals are those hardrock minerals which are mined and processed for the recovery of metals. They also may include certain nonmetallic minerals and uncommon varieties of mineral materials, such as valuable and distinctive deposits of limestone or silica.

5 Lode Mining - The mining of a valuable mineral which occurs as a tabular deposit between definite, contrasting mineral or rock boundaries.

1 Long-Reach Cable System - In timber harvesting, any cable logging system capable of extracting logs at distances greater than 2,000 feet.

3 Long-Term Sustained Yield Timber Capacity - The highest uniform wood yield from lands being managed for timber production that may be sustained under a specified management intensity consistent with multiple-use objectives.

2 Low Income - Household income below the poverty level as defined by the U. S. Department of Health and Human Services.

1 Management Area - The land area on which a certain management strategy is applied.

3 Management Concern - An issue, problem or a condition which constrains the range of management practices identified by the Forest Service in the planning process.

3 Management Direction - A statement that includes: multiple use and other goals and objectives, the associated management strategies, and standards and guidelines for attaining them.

3 Management Intensity - A management practice or combination of management practices and associated costs designed to obtain different levels of goods and services.

3 Management Practice - A specific action, measure, course of action, or treatment.

3 Management Strategy - Management practices and intensity selected and scheduled for application on a management area to attain multiple use and other goals and objectives.

1 Management Prescription - See Management Strategy.

2 Market - The processes of exchanging goods or service for money or other goods or services according to a customary procedure. A market may occur in a specific place or throughout an area by individual transactions.

2 Market Area - The area from which a market draws or to which it distributes its goods or services, and for which the same general price structure and price influences prevail.

2 Market Assessment - A market study describing sources of supply and demands for goods or service, pricing processes, and influences on value.

Maximum Modification (Visual) - See Visual Quality Objective.

MBF - Thousand board feet.

MCF - Thousand cubic feet.

MIH - Management Information Handbook

2 Minority - Persons as specified in Directive 15, Office of Federal Statistical Policy and Standards, U. S. Department of Commerce, Statistical Policy Handbook (1978). Generally identified as one of the following four categories: Alaskan Native or American Indian, Asian or Pacific Islander, Black, Hispanic.

11 Mistletoe - A flowering plant of the family Loranthaceae, parasitic on trees and other woody plants.

10 Mitigate - To make less severe.

MMBF - Million board feet.

MMCF - Million cubic feet.

MBF - Thousand board feet.

Modification (Visual) - See Visual Quality Objective.

3 Multiple Use - The management of all the various renewable surface resources of the National Forest System in such a way that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some lands will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output.
(16 U.S.C. 531(a))

NEPA - The National Environmental Policy Act of 1969.

1 NEPA Process - A process, mandated by NEPA, which concentrates decisionmaking around issues, concerns, alternatives and the effects of alternatives on the environment.

New Utility Corridor - See Corridor.

NFMA - The National Forest Management Act of 1976.

2 Nominal Dollars - A value from which the effect of change in the purchasing power of the dollar has not been removed.

1 Nonchargeable - Volumes of timber that are not included in calculations of a regulated sale schedule and therefore cannot be included when determining achievement of that timber sale schedule.

1 Nondeclining Evenflow - A harvest schedule for timber or any other resource in which the average annual harvest may increase or remain static through time but never decrease.

3 Objective - A concise, time-specific statement of measurable planned results that respond to pre-established goals. An objective forms the basis for further planning to define the precise steps to be taken and the resources to be used in achieving identified goals.

1 Off-Road Vehicle (ORV) - A vehicle capable of cross-country travel or travel on low-grade roads and trails, e.g., motor bikes, four wheel drives, snowmobiles. Includes all terrain vehicles (ATV's).

12 Old-Growth - An old-growth stand is defined as any stand of trees ten acres or greater generally containing the following characteristics: 1) stands contain mature and overmature trees in the overstory and are well into the mature growth stage; 2) stands will usually contain a multi-layered canopy and trees of several age classes; 3) standing dead trees and down material are present; and 4) evidence of man's activities may be present, but do not significantly alter the other characteristics and would be a subordinate factor in a description of such a stand.

1 Opportunity Cost - The dollar-quantifiable net loss resulting from selecting a less efficient course of action.

Optimum Big-Game Cover - See Optimum Habitat.

7 Optimum Habitat - Amounts and arrangement of cover and forage areas that result in the greatest possible proper use of the greatest possible area by deer and elk.

ORV - See Off-Road Vehicle.

2 Output, Controlled - The amount of an output which management has the legal and practical ability to control with management activities.

2 Output, Non-Controlled - The amount of an output which will occur regardless of management activity.

1 Overstory - The portion of trees in a forest which forms the uppermost layer of foliage.

7 Overwood Removal (Final Harvest) - Removal of all seed bearers, or shelter trees, after regeneration is considered to be established under a shelterwood system.

2 PAOT - Persons at one time. The number of people in an area or using a facility at the same time.

1 P&M - Funds appropriated by Congress for protection and management of the Forest.

Partial Retention (Visual) - See Visual Quality Objective.

2 Payment in Lieu of Taxes (PILOT) - Payments to local or State governments based on ownership of Federal land and not directly dependent on production of outputs or receipt sharing. Specifically, they include payments made under the Payments in Lieu of Taxes Act of 1976 by U. S. Department of the Interior.

2 Perennial Streams - These are waters that flow throughout the year from source to mouth. They receive water not only from precipitation, but also from underground sources at springs and seeps. They owe their permanency to the ground water in the area adjoining the stream being at higher elevation than the stream bed.

1 Permittee - A holder of a permit to use National Forest land for a specific purpose.

PILOT - See Payment in Lieu of Taxes.

11 Pioneer Species - A plant capable of invading bare sites (e.g., a newly exposed soil surface) and persisting there, i.e., "colonizing" them, until supplanted.

5 Placer Mining - The extraction of valuable heavy minerals from a mass of sand, gravel, or other similar alluvial material by concentration in running water.

2 Planned Ignition - A fire started by a deliberate management action.

PNV - See Present Net Value.

PNW - Present Net Worth, see Present Net Value. Occasionally used to refer to FORPLAN efficiency criterion which does not include all quantified costs and benefits.

1 Policy - A guiding principle upon which is based a specific decision or set of decisions.

1 Potential Yield - The sustainable output level of wood fiber available after deductions for other resource needs.

1 Preattack Planning - In fire management, a system for collecting, evaluating, and recording fire intelligence data for a given planning unit. The planning phase is usually followed by a construction and development program integrated with other management functions.

7 Precommercial Thinning - Any type of thinning that takes place in a stand of trees before the size or condition of the material cut or killed makes it of sufficient value to meet the costs of the activity.

5 Prescribed Fire - Intentional application of fire to forest or rangeland in their natural or modified state to meet specific management objectives.

7 Prescription (Silvicultural) - The formal written plan of action to carry out a silvicultural treatment of a forest stand to achieve specific objectives.

1 Present Net Value - Discounted benefits less discounted costs.

Preservation (Visual) - See Visual Quality Objective.

2 Primitive - See Recreation Opportunity Spectrum.

Productive - See Commercial Forest Land.

1 PROGNOSIS - A computer model which predicts how timber stands will grow by comparing growth of trees within stands to be managed with the measured growth of trees within stands having similar characteristics.

1 Programmed Harvest - Timber scheduled for harvest for a specific year.

3 Public Issue - A subject or question of widespread public interest relating to management of the National Forest System.

12 Purchaser Road Credits - Credit earned by the purchaser of a National Forest timber sale by construction of contract-specific roads. Earned purchaser credit may be used by the purchaser as payment for National Forest timber removed.

10 Pyroclastic - Formed by fragmentation as a result of volcanic or igneous action.

18 Range Condition - The current productivity of a range relative to what that range is naturally capable of producing.

1 Range Condition, Satisfactory - Having achieved the desired ecological status.

1 RARE II - An acronym for a second generation "Roadless Area Review and Evaluation" instituted in June 1977, to identify roadless and undeveloped land areas in the National Forest System. Its purpose was to determine which of the inventoried areas should be recommended to Congress for inclusion in the National Wilderness Preservation System, which areas should be managed for nonwilderness uses, and which areas required further planning before a reasonable decision on them could be made.

1 Rate-of-Return - the annualized net profit on an investment, expressed as a percentage.

3 Real Dollar Value - A monetary value which compensates for the effects of inflation.

2 Recreation Opportunity Spectrum (ROS) - An array of recreational activities, settings, and experiences used as a basic framework in planning and managing the recreation resource. This spectrum is divided into the following classes: primitive, semiprimitive nonmotorized, semiprimitive motorized, roaded natural, rural, and urban.

2 Primitive - Area is characterized by essentially unmodified natural environment of a size or location that provides the opportunity for isolation from sights and sounds of people. The user has the opportunity to be a part of the natural environment, often with a high degree of challenge and risk in which to use a maximum degree of outdoor skills. The area is managed to be as free as possible from evidence of people-induced restrictions and controls. Only essential facilities for resource protection are used. Motorized use within the area is normally not permitted.

2 Semiprimitive Nonmotorized - Area is characterized by predominantly unmodified natural environment of a size or location that provides a good-to-moderate opportunity for isolation from sights and sounds of people. The user has the opportunity for a high degree of interaction with the natural environment. The area is managed in such a way that minimum on-site controls and restrictions may be present. Facilities are primarily provided for the protection of resource values and safety of users. Motorized use is not normally permitted.

2 Semiprimitive Motorized - Area is characterized by predominantly unmodified natural environment of a size or location that provides a good-to-moderate opportunity for isolation from sights and sounds of people except for facilities essential for the use of motorized equipment. The area is managed

in such a way that minimum on-site controls and restrictions may be present, but are subtle. Facilities are primarily provided for the protection of resource values and safety of users. Motorized use is permitted. Limited primitive road construction to enhance recreation opportunity is permissible.

2 Roaded Natural - Area is characterized by predominantly natural appearing environments with moderate evidences of the sights and sounds of people. Such evidences usually harmonize with the natural environment. Interaction between users may be low to moderate, but with evidence of other users prevalent. Resource modification and utilization practices are evident, but harmonize with the natural environment. Conventional motorized use is provided for in construction standards and design of facilities.

2 Rural - Area is characterized by substantially modified natural environment. Resource modification and utilization practices are to enhance specific recreation activities and to maintain vegetative cover and soil. Sights and sounds of humans are readily evident, and the interaction between users is often moderate to high. A considerable number of facilities are designed for use by a large number of people. Facilities are often provided for special activities. Moderate densities are provided far away from developed sites. Facilities for intensified motorized use and parking are available.

2 Urban - Area is characterized by a substantially urbanized environment, although the background may have natural appearing elements. Renewable resource modification and utilization practices are to enhance specific recreation activities. Vegetative cover is often exotic and manicured. Sights and sounds of humans, on-site, are predominant. Large numbers of users can be expected, both onsite and in nearby areas. Facilities for highly intensified motor use and parking are available with forms of mass transit often available to carry people throughout the site.

2 Recreation Visitor Day - The use of an area by one or more people for 12 person-hours, either continuously or spread over several visits. One person visiting a recreation site for one day (12 hours) is one recreation visitor day (RVD).

Recreational Rivers - (See Wild, Scenic and Recreational Rivers).

1 Redd - Nest in gravel of stream bottom where fish deposit eggs. In this document, refers to salmon spawning redds.

2 Reforestation - Reforestation includes measures to obtain natural regeneration, as well as tree planting and seeding. The work is done on National Forests to produce timber and other forest products, protect watersheds, prevent erosion, and improve other

social and economic values of the forests, such as wildlife, recreation, and natural beauty.

11 Regeneration - The renewal of a tree crop, whether by natural or artificial means. Also the young tree crop itself.

1 Regulated - Stands which contribute to the calculated base timber sale schedule or departure. Herein includes green volume projections of FORPLAN and the estimated capture of future endemic mortality.

1 Regulated Forest - The regulation of the growing stock and/or yield so that it contains at all times a proper proportion of young, middle-aged and mature timber and has for its primary objective the establishment of a forest property capable of continuous production or sustained yield.

1 Rehabilitation - The act of restoring a portion of land to its former state or capacity. This can be done by reshaping the land and/or planting grass, forbs, shrubs, or trees. Landscape rehabilitation is a short-term management alternative used to restore landscapes containing undesirable visual or resource damage to a desired quality. Rehabilitation may be achieved through alteration, concealment, or removal or obtrusive elements.

2 Research Natural Area - An area, typifying an important forest, shrubland, grassland, alpine, aquatic, or geologic type or other natural situation that has special or unique characteristics, which is set aside to provide a benchmark for education and research.

12 Reserved Forest Land - Productive public forest land withdrawn from timber utilization through statute or administrative regulations.

1 Resource Allocation - Designating certain parcels of land for the production of certain resources. The resources derived may be commodities, amenities or combinations of each. For the purpose of this document, resource allocation is synonymous with land management allocation.

2 Rest Rotation System - A type of grazing management where the grazed area is divided into two or more pastures. One or more pastures are not grazed (rested) during certain years or entire growing seasons.

Retention (Visual) - See Visual Quality Objective.

2 Riparian Areas - Geographically-delineated areas, with distinctive resource values and characteristics, that are comprised of the aquatic and riparian ecosystems, floodplains and wetlands. Generally these are within 100 feet of water.

2 Riparian Ecosystems - A riparian ecosystem is a transition between the aquatic ecosystem and the adjacent terrestrial ecosystem and is identified by soil characteristics and distinctive vegetation communities that require free or unbound water.

2 Riparian Habitat - That portion of a watershed or shoreline influenced by surface or subsurface waters, including stream or lake margins, marshes, drainage courses, springs and seeps.

Risk - See Fire Risk.

RNA - See Research Natural Area.

Roaded Natural - See Recreation Opportunity Spectrum.

17 Roads, Arterial - Roads and trails comprising the basic access network for National Forest System administrative and management activities. These roads and trails serve all resource elements to a substantial extent, and maintenance is not normally determined by the activities of any one element. They provide service to large land areas and usually connect with public highways or other National Forest arterial roads to form an integrated network of primary travel routes. Locations and standards are determined often by a demand for maximum mobility and travel efficiency rather than by a specific resource management service. Usually, they are developed and operated for long-term land and resource management purposes and constant service.

17 Roads, Collector - Roads and trails constructed to serve the activities of two or more elements but which do not fit into the other two categories (arterial or service). Construction costs of these facilities are prorated to the respective element served. These roads serve smaller land areas and are usually connected to a National Forest arterial or public highway. They collect traffic from National Forest local roads or terminal facilities. Locations and standards are influenced by both long-term multi-resource service needs and travel efficiency. Collector roads may be operated for either constant or intermittent service, depending on land use and resource management objectives for the area served by the facility.

17 Roads, Local - Roads and trails constructed and maintained for the activities of a given resource element. Some use may be made by other element activities, but normally maintenance is not affected by such use. These roads connect terminal facilities with National Forest collector or arterial roads or public highways. Locations and standards usually are determined by the requirements of a specific resource activity rather than by travel efficiency. National Forest local roads may be developed and operated for either long- or short-term service.

1 Roads, Open - Roads open to motorized use during all or most of the year.

5 Rotation (as used in reference to timber) - The period of years between the initial establishment of a timber stand and the time when it is considered ready for cutting and regeneration.

RPA - The Forest and Rangeland Renewable Resources Planning Act of 1974.

Rural - See Recreation Opportunity Spectrum.

1 Sale Schedule - The quantity of timber planned for sale by time period from an area of suitable land covered by a forest plan. The first period, usually a decade, of the selected sale schedule provides the allowable sale quantity. Future periods are shown to establish that long-term sustained yield will be achieved and maintained.

1 Salvage - Removal of recently-dead trees.

11 Sanitation - The removal of dead, damaged, or susceptible trees essentially to prevent the spread of pests or pathogens and so promote forest hygiene.

1 Scablands - Shallow-soiled lands typically dominated by such species as low and stiff sagebrush.

Scenic Rivers - See Wild, Scenic and Recreational Rivers.

1 Scoping Process - A process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action.

11 Scribner Rule - In the measurement of timber and lumber, a diagram log rule, one of the oldest in existence. It assumes 1-inch boards and a 1/4-inch kerf (width of saw), makes a liberal allowance for slabs and disregards taper. It is the official rule in many parts of the United States for measuring timber volume.

11 Scribner Decimal C Rule - The Scribner rule modified by rounding off the last digit to the nearest 10 and dropping the zero. An official rule of the U. S. Forest Service.

2 Season-Long Grazing - A type of grazing management in which the total area is subject to use throughout the grazing season.

11 Seed Tree - A tree selected, and often reserved for seed collection.

1 Selected Parent Tree - A tree picked as a superior seed source.

11 Selection Cutting - The annual or periodic removal of trees, individually or in small groups, from an uneven-aged forest in order to realize yield and establish a new stand of irregular constitution.

Semiprimitive Motorized - See Recreation Opportunity Spectrum.

Semiprimitive Nonmotorized - See Recreation Opportunity Spectrum.

2 Sensitive Species - Those species which have appeared in the Federal Register as proposals for classification and are under consideration for official listing as endangered or threatened species, are on an official State list, or are recognized by the Regional Forester to need special management in order to prevent the need for their placement on Federal or State lists.

5 Seral - A biotic community which is a developmental, transitory stage in an ecologic succession.

Shade Tolerant Trees - See Tolerance.

Shade Intolerant Trees - See Tolerance.

5 Shelterwood System - In timber management, even-aged silvicultural systems in which (in order to provide a source of seed and/or protection of regeneration) the old tree crop is removed in two or more successive "shelterwood cuttings" the first of which is ordinarily the seed tree cutting and the last is the final cutting; any intervening cuttings being termed removal cuttings.

1 Short-Reach Cable System - In timber harvesting, any cable logging system capable of extracting logs only from distances of up to 2,000 feet.

5 Silviculture - The theory and practice of controlling the establishment, composition, competition, and growth of forests.

3 Silvicultural System - A management process whereby forests are tended, harvested, and replaced, resulting in a forest of distinctive form. Systems are classified according to the method of carrying out the fellings that remove the mature crop and provide for regeneration, and according to the type of forest thereby produced.

5 Skidding - In timber harvesting, a loosely-used term for transportation of logs from stumps to a collecting point by sliding or dragging along the ground.

7 Slash - The vegetative residue left on the ground after trees are felled or accumulated as a result of storm, fire, or silvicultural treatment.

1 Smolt - Young salmon or steelhead which migrate to the ocean.

1 Smolt Habitat Capability Index - An indicator of the quality of rearing habitat for young salmon or steelhead (smolt). It assumes that spawning gravels are adequate to provide sufficient spawning areas to fully seed the existing rearing habitat and that sufficient numbers of adults will escape past fishermen, hydroelectric dams, or natural mortality to return and fully seed the spawning

gravels. It is expressed as the number of smolt which could be produced, estimating potential rather than actual production.

5 Snag - A standing dead tree from which the leaves and most of the branches have fallen.

2 Social Organization - The structure of a society described in terms of institutions, community cohesion and community stability.

2 Social Variable - A variable that measures the social impact of Forest Service management alternatives. Examples include population statistics, types of institutions, and personal opinion as reflected in attitudes or as demonstrated by behavior.

1 Spike Camp - A hunting camp that is set up in advance of the client's arrival. This camp may be left up for the duration of the hunting season. The camp may or may not be used by the outfitter. The specific location is described in the permit. Also refers to an isolated fire camp, away from the primary fire camp.

1 Standard - A principle requiring a specific level of attainment, a rule against which to measure.

1 Stat High Bid (Statistical High Bid) - The successful bid for Forest stumpage.

1 Steelhead - A large-sized silvery anadromous trout.

1 Stockable - Capable of being occupied by trees.

1 Stocking Level Controls - As used in timber management, control of the number of trees for a given area in order to use the sunlight, water and soil nutrients for maximum wood growth.

2 Streamside Management Unit - A streamside management unit (SMU) is the stream and an adjacent area of varying width where practices that might affect water quality, fish and other aquatic resources are modified, as necessary, to meet water quality goals for each class of stream.

7 Stringer - Vegetation arranged in a long, thin, linear fashion.

1 Stumpage - Standing timber.

7 Successional Stage - A stage or recognizable condition of a plant community which occurs during its development from bare ground to climax. Coniferous forests in the Blue Mountains progress through six recognized states: grass-forb, shrub-seedling, pole-sapling, young, mature, and old-growth.

3 Suitability - The appropriateness of applying certain resource management practices to a particular area of land, as determined by an analysis of the economic and environmental consequences and

the alternative uses foregone. A unit of land may be suitable for a variety of individual or combined management practices.

Suitable - See Commercial Forest Land.

1 Summer Range - A portion of the total range on which big-game animals normally find food and cover during summer months.

2 Supply - The amount of an output that producers are willing to provide at a specific price, time period, and conditions of sale.

1 Suppression - Action to limit the spread, and to prevent damage, by a wildfire.

1 Surveillance - To observe wildfires without taking active suppression action.

3 Sustained Yield of Products and Services - The achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of the National Forest System without impairment of the productivity of the land.

1 Swale - A low-lying stretch of land.

1 Targets - Pacific Northwest Regional RPA output and activity levels which are assigned to the 19 Forests in the Region.

7 Thermal Cover - Cover used by animals to ameliorate effects of weather; for elk, a stand of coniferous trees 12 meters (40 feet) or more tall with an average crown closure of 70% or more; for deer, cover may include saplings, shrubs, or trees at least 1.5 meters (5 feet) tall with 75% crown closure.

2 Threatened Species - Any species listed in the Federal Register, which is likely to become an endangered species within the forseeable future throughout all or a significant portion of its range.

11 Thinning - A felling made in an immature tree crop or stand in order primarily to accelerate diameter increment but also, by suitable selection, to improve the average form of the trees that remain, without--at least according to classical concepts--permanently breaking the canopy.

3 Timber Production - The purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use. For purposes of this definition, the term "timber production" does not include production of fuelwood.

1 Timber Stand Improvement - Practices such as thinning or planting which are intended to assist in meeting management objectives.

16 Tolerance - The forestry term for expressing the relative capacity of a tree to compete under low light and high root competition.

Tolerant Trees - Trees which reproduce and form understories beneath canopies of less tolerant trees or even beneath shade of their own species.

Intolerant Trees - Trees which reproduce successfully only in the open or where the canopy is greatly broken.

15 Total Resource Information System (TRI) - A natural resource data base used on National Forests in the Pacific Northwest (Washington and Oregon) to provide storage and retrieval for in-place resource data. TRI system is a multimedia information system using maps, aerial photographs, paper forms, microfilm and computer storage to handle large volumes of data.

5 Tractor Logging - In timber harvesting, any logging method which uses a tractor as the motive power for transporting logs from the stumps to a collecting point, whether by dragging or carrying the logs.

1 Transition Forage - Forage from transitory range.

5 Transitory Range - Land that is suitable for grazing use of a non-enduring or temporary nature over a period of time. For example, on particular disturbed lands, grass may cover the area for a period of time before being replaced by trees or shrubs not suitable for forage.

Transportation Corridor - See Corridor.

TRI - Total Resource Information System.

15 TRI Compartment - An orthophoto map area for indexing and storing data locations. The scale is 4" = 1 mile, and covers approximately 6500-8000 acres, with boundaries on photo-identifiable features. Each compartment has a unique name and number used for information storage on the orthophoto maps and in the USDA Fort Collins Computer Center.

1 Tri-Counties - Baker, Union and Wallowa Counties of Oregon -- the primary impact area of the Wallowa-Whitman National Forest.

TSI - Timber Stand Improvement, as in precommercial thinning.

7 Understory - In silviculture, trees growing under the canopy formed by taller trees; in range management, herbaceous and shrub vegetation under a brushwood or tree canopy.

1 Undeveloped Area - Lands which are in an essentially unroaded condition.

3 Uneven-age Management - The application of a combination of actions needed to simultaneously maintain continuous high-forest cover, recurring regeneration of desirable species, and the orderly growth and development of trees through a range of diameter or age classes to provide a sustained yield of forest

products. Cutting is usually regulated by specifying the number or proportion of trees of particular sizes to retain within each area, thereby maintaining a planned distribution of size classes. Cutting methods that develop and maintain uneven-aged stands are single-tree selection and group selection.

7 Ungulate - A mammal with hooves.

2 Unplanned Ignition - A fire started at random by either natural or human causes, or a deliberate incendiary fire.

Unproductive - As used in reference to timber production, forest land which does not grow 20 cubic feet per acre per year of merchantable timber.

1 Unregulated - Timber which was not considered (because of land allocations or condition of trees) in calculating a base sale schedule or departure. Unregulated timber includes salvage of epidemic mortality, volumes of cull material, or green volumes from unsuited lands.

2 Urban - See Recreation Opportunity Spectrum.

USDA - United States Department of Agriculture.

USDI - United Stated Department of the Interior.

Utility Corridor - See Corridor.

2 Value, Market - The unit price of an output normally exchanged in a market after at least one stage of production, expressed in terms of what people are willing to pay as evidenced by market transactions.

2 Value, Non-Market - The unit price of a non-market output not normally exchanged in a market at any stage before consumption, and thus must be imputed from other economic information.

19 Viewshed - A total landscape seen or potentially seen from all or a logical part of a travel route, use area or water body.

VIS - See Visitor Information Service.

1 Visitor Information Service - Self-explanatory.

1 Visual Corridor - A linear area identified for special attention to visual quality.

1 Visual Quality Objective - A combination of inherent scenic quality and public interest which defines the acceptable degree of alteration for any given area. Five visual quality objectives have been identified as follows:

9 Preservation - Only ecological changes are permitted.

9 Retention - Management activities are not visually evident.

9 Partial Retention - Management activities may be evident, but remain visually subordinate.

9 Modification - Management activities in foreground and middleground are dominant but appear natural.

9 Maximum Modification - Management activities are dominant, but appear natural when seen as background.

2 Wetlands - Those areas that are inundated by surface or ground water with a frequency sufficient to support, and under normal circumstances do or would support, a prevalence of vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats and natural ponds.

8 Wild, Scenic and Recreational Rivers - Rivers or river segments which have been designated as part of the National Wild and Scenic Rivers System (Public Law 90-542, 1968). Brief summaries of criteria for classification within this system are as follows:

8 Wild Rivers - Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

8 Scenic Rivers - Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

8 Recreational Rivers - Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

7 Wilderness - Lands designated by law as wilderness; no road building or timber harvesting is allowed on such lands; they are intentionally managed to maintain their primitive character.

Wilderness Act - The Wilderness Act of 1964.

2 Wilderness Recreation Opportunity Spectrum - A further refinement of the primitive portion of the ROS. The following terms deal only with officially designated wilderness:

Primitive Trailed - The sights, sounds, and smells relating to human activities outside the wilderness are essentially non-existent. The same factors relating to human activities

within the wilderness are minimized. An extremely high opportunity exists for exploring and experiencing considerable isolation, tranquility and self-reliance.

Primitive Trailless - The most remote; generally the core area which is least accessible. Terrain, vegetation, trail density, and reasonable travel methods provide an area generally large enough to allow at least two days of cross-country travel without crossing a constructed trail. A most outstanding opportunity exists for isolation and solitude free from evidence of past human activity.

Semiprimitive Trailed - The least remote; generally those areas nearest trailheads and major access points or the wilderness periphery where the sights, smells, and sounds of human activities both within and outside the wilderness are affecting the wilderness visitor. Opportunities for a wilderness-related experience are only moderate.

2 Wildfire - Any wildland fire that requires a suppression response.

Wild Rivers - See Wild, Scenic and Recreational River.

7 Winter Range - A range, usually at lower elevation, used by migratory deer and elk during the winter months; usually smaller and better-defined than summer ranges.

1 Wolf Plant- A plant species generally considered to be palatable, but which is not grazed. Absence of grazing allows the plant to evolve into a relatively large, coarse form intermixed with dead previous year's growth. Extensive root development allows the plant to successfully exclude competition from younger plants. The resulting coarse growth is less palatable and produces less forage growth than identical species exposed to periodic grazing.

1 Working Group - A grouping of community types or forest types indicative of timber productivity.

WROS - See Wilderness Recreation Opportunity Spectrum.

Key to Source Codes

1. Developed by the interdisciplinary team.
2. Forest Service Manual.
3. National Forest Management Act Regulations.
5. Wildland Planning Glossary - USDA Forest Service General Technical Report PSW-13/1976.
7. Wildlife Habitats in Managed Forests - USDA Forest Service Agriculture Handbook No. 553, 1979.

8. Wild and Scenic Rivers Act of 1968.

9. National Forest Landscape Management, Vol. 2, Chapter 5, USDA Forest Service.

10. Webster's Seventh New Collegiate Dictionary.

11. Terminology of Forest Science, Technology Practice, and Products, 1971. Society of American Foresters.

12. Pacific Northwest Region Regional Guide.

13. "Effects of Fire on Fuels," USDA Forest Service General Technical Report, WO-13.

14. "Glossary of Fire Information Terms," Wallowa-Whitman National Forest, Revised 6/82.

15. Overview of the TRI System USDA, Forest Service, Pacific Northwest Region, 4/78.

16. Principles of Silviculture, Daniel, Helms and Baker, McGraw Hill Book Company, 1979.

17. A Recommended Renewable Resources Program - 1980 Update, USDA Forest Service, FS-346.

18. A Glossary of Terms Used in Range Management, Society for Range Management, 1974.

19. (Proposed) Land and Resource Management Plan for the Deschutes National Forest.

Appendix A

DETAILED SCHEDULES OF PROJECTED ACTIVITIES

Appendix A comprises the three-year schedule of proposed projects for the plan. Listings of possible projects to meet or accelerate the ten-year management practice schedule are maintained by the respective unit managers.

Table A-1
PROPOSED PROJECTS WHICH AS OF JULY 1, 1985 HAD ENVIRONMENTAL ASSESSMENTS COMPLETED AND DECISIONS MADE FOR IMPLEMENTATION DURING FISCAL YEARS 1987-1989

	Project Name	Program	M$ Cost	Description	
1.	Gold Ibex Timber Sale	Timber	NA	Baker R.D. Planned Sell Decision Date	12,600 MBF 02/87 03/21/84
2.	North Wind Timber Sale	Timber	NA	Baker R.D. Planned Sell Decision Date	10,000 MBF FY 87 08/24/84
3.	Corral Timber Sale	Timber	NA	Baker R.D. Planned Sell Decision Date	4,000 MBF FY 88 05/15/85
4.	Rancheria Timber Sale	Timber	NA	Baker R.D. Planned Sell Decision Date	6,000 MBF FY 88 12/31/84
5.	Tillicum Timber Sale	Timber	NA	Baker R.D. Planned Sell Decision Date	15,200 MBF FY 88 02/26/85
6.	Ragged Marble Timber Sale	Timber	NA	Baker R. D. Planned Sell Decision Date	9,300 MBF FY 89 05/15/85
7.	Elk Creek Timber Sale	Timber	NA	Wallowa Valley RD Planned Sell Decision Date	4,500 MBF FY 87 06/15/84

NA: Not Applicable

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Table A-1
PROPOSED PROJECTS WHICH AS OF JULY 1, 1985 HAD ENVIRONMENTAL ASSESSMENTS COMPLETED AND DECISIONS MADE FOR IMPLEMENTATION DURING FISCAL YEARS 1987-1989

	Project Name	Program	M$ Cost	Description
8.	Sumac Timber Sale	Timber	NA	Wallowa Valley RD 6,500 MBF Planned Sell FY 87 Decision Date 04/30/85
9.	Bearpaw Timber Sale	Timber	NA	Wallowa Valley RD 5,600 NBF Planned Sell FY 87 Decision Date 05/30/85
10.	Tamarack Timber Sale	Timber	NA	Wallowa Valley RD 6,500 MBF Planned Sell FY 87 Decision Date 01/5/85
11.	Bluebird Timber Sale	Timber	NA	Hells Canyon NRA 7,000 MBF Planned Sell FY 87 Decision Date 01/1/85
12.	Campsite Timber Sale	Timber	NA	Hells Canyon NRA 1,800 MBF Planned Sell FY 88 Decision Date 05/1/85
13.	Mud Timber Sale	Timber	NA	Hells Canyon NRA 2,600 MBF Planned Sell FY 88 Decision Date 05/18/83
14.	Big Canyon Timber Sale	Timber	NA	Eagle Cap RD 5,000 MBF Planned Sell FY 87 Decision Date 04/1/85
15.	PA Timber Sale	Timber	NA	La Grande RD 4,000 MBF Planned Sell FY 87 Decision Date 07/20/81
16.	Camp Creek Timber Sale	Timber	NA	La Grande RD 13,900 MBF Planned Sell FY 87 Decision Date 08/10/84
17.	Speck LP Timber Sale	Timber	NA	La Grande RD 2,500 MBF Planned Sell FY 87 Decision Date 03/30/83
18.	Meadowbrook Timber Sale	Timber	NA	La Grande RD 2,700 MMBF Planned Sell FY 87 Decision Date 04/1/84

NA: Not Applicable

Table A-1
PROPOSED PROJECTS WHICH AS OF JULY 1, 1985 HAD ENVIRONEMNTAL ASSESSMENTS COMPLETED AND DECISIONS MADE FOR IMPLEMENTATION DURING FISCAL YEARS 1987-1989

Project Name	Program	M$ Cost	Description	
19. Brook LP timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	600 MBF FY 87 05/1/84
20. Hotel LP Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	2,000 MBF FY 87 01/15/85
21. HFR 87 Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	2,700 MBF FY 87 03/15/85
22. 7-11 LPP Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	1,300 MBF FY 87 05/3/81
23. Summit Salvage Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	400 MBF FY 87 06/28/84
24. Hoodoo LP Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	4,600 MBF FY 87 08/26/83
25. PSC LP Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	8,100 MBF FY 87 08/26/83
26. Fiddler Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	10,700 MBF FY 87 08/1/80
27. Ralph LP Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	2,500 MBF FY 88 02/15/85
28. Toot LP Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	1,200 MBF FY 88 04/30/85
29. Buck-Corral Creek Tbr Sale	Timber	NA	La Grande RD Planned Sell Decision Date	11,800 MBF FY 88 02/1/85

NA: Not applicable

Table A-1
PROPOSED PROJECTS WHICH AS OF JULY 1, 1985 HAD ENVIRONMENTAL ASSESSMENTS COMPLETED AND DECISIONS MADE FOR IMPLEMENTATION DURING FISCAL YEARS 1987-1989

	Project Name	Program	M$ Cost	Description	
30.	East Clark Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	6,000 MBF FY 88 12/1/84
31.	Green Hoosier Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	600 MBF FY 88 06/1/82
32.	Moriah Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	2,300 MBF FY 88 10/8/82
33.	Grove Creek Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	1,200 MBF FY 88 06/8/81
34.	8-Saddle LP Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	14,700 MBF FY 88 08/26/83
35.	Jimmy LP Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	1,500 MBF FY 88 08/26/83
36.	Lost Goose Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	4,000 MBF FY 88 06/1/85
37.	Frosted Overwood Tbr Sale	Timber	NA	La Grande RD Planned Sell Decision Date	1,500 MBF FY 88 09/27/84
38.	Lookout Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	6,200 MBF FY 88 05/15/81
39.	East Caps Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	7,500 MBF FY 89 02/12/82

NA: Not Applicable

Table A-1

PROPOSED PROJECTS WHICH AS OF JULY 1, 1985 HAD ENVIRONMENTAL ASSESSMENTS COMPLETED AND DECISIONS MADE FOR IMPLEMENTATION DURING FISCAL YEARS 1987-1989

Project Name	Program	M$ Cost	Description	
40. Park West Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	6,000 MBF FY 89 07/1/85
41. Deally Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	3,900 MBF FY 89 04/23/84
42. Marathon Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	1,200 MBF FY 89 01/17/85
43. Motel Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	2,500 MBF FY 89 04/15/85
44. Bourbon Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	6,500 MBF FY 89 03/30/85
45. Long Shot Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	2,400 MBF FY 89 04/1/85
46. Boulevard Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	5,800 MBF FY 89 08/26/83
47. Upper Chicken Timber Sale	Timber	NA	La Grande RD Planned Sell Decision Date	5,500 MBF FY 89 03/10/82
48. North Boulder Timber Sale	Timber	NA	Pine RD Planned Sell Decision Date	6,000 MBF FY 87 05/15/85
49. Torch Timber Sale	Timber	NA	Pine RD Planned Sell Decision Date	1,600 MBF FY 87 03/4/85

NA: Not Applicable

Table A-1
PROPOSED PROJECTS WHICH AS OF July 1, 1985 HAD ENVIRONMENTAL ASSESSMENTS COMPLETED AND DECISIONS MADE FOR IMPLEMENTATION DURING FISCAL YEARS 1987-1989

	Project Name	Program	M$ Cost	Description	
50.	Cow Camp Timber Sale	Timber	NA	Pine RD Planned Sell Decision Date	2,000 MBF FY 87 05/15/85
51.	Hole Timber Sale	Timber	NA	Unity RD Planned Sell Decision Date	3,500 MBF FY 87 04/1/85
52.	Bear Timber Sale	Timber	NA	Unity RD Planned Sell Decision Date	4,000 MBF FY 87 06/17/85
53.	Orion Timber Sale	Timber	NA	Unity RD Planned Sell Decision Date	2,000 MBF FY 87 06/17/85
54.	Water Truck Timber Sale	Timber	NA	Unity RD Planned Sell Decision Date	7,000 MBF FY 87 05/12/85
55.	Elkhorn DR #73	Eng.	600	Pavement Overlay	
56.	Logan Valley RD #16	Eng.	200	Surfacing	
57.	Ragged Marble RD #7225	Eng.	303	Realignment	
58.	Lonesome Cr RD #39	Eng.	225	Widen & Surface	
59.	Pittsburg Landing RD #493	Eng.	400	Realignment and Surfacing	
60.	Kettle CR Bridge	Eng.	NA	Bridge Replacement	
61.	Lodgepole Pine RDs	Eng.	500 /yr for 8 yrs.	Preroading for Lodgepole Access	
62.	Pittsburg CG Roads	Eng.	NA	Campground RDs	
63.	Big Canyon RD #8270	Eng.	175	Surfacing	

NA: Not Applicable

Table A-1
PROPOSED PROJECTS WHICH AS OF JULY 1, 1985 HAD ENVIRONMENTAL ASSESSMENTS COMPLETED AND DECISIONS MADE FOR IMPLEMENTATION DURING FISCAL YEARS 1987-1989

	Project Name	Program	M$ Cost	Description
64.	Sheep Ranch	Range	71	Boundary Fencing, Water Development
65.	Saddle Creek	Range	NA	Fence Construction, Water Development
66.	Cherry Creek	Range	NA	No Change
67.	West Burnt River	Range	12	Fence Construction
68.	College Creek	Range	NA	Upgrade Boundary Fence, Unit Division Fence, and Develop Springs
69.	Lone Pine	Range	NA	Water Development, Fence Construction, Stock Driveway

NA: Not Applicable

Appendix B

EAGLE CAP WILDERNESS MANAGEMENT PLAN

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Appendix B

EAGLE CAP WILDERNESS MANAGEMENT PLAN

INTRODUCTION

Description of Area

Located in the northeast portion of the Wallowa-Whitman National Forest in Northeast Oregon, and administered by the Eagle Cap Ranger District, the Eagle Cap Wilderness encompasses 361,446 1/ acres of the Wallowa Mountains in Wallowa, Union, and Baker counties. The Eagle Cap Wilderness is bordered on the southeast by the Hells Canyon National Recreation Area, and is otherwise surrounded by multiple-use National Forest lands and privately owned agricultural and timbered lands. The area is accessible by State highways from La Grande, Oregon and Lewiston, Idaho. There are 47 trailheads providing access to the Wilderness and its approximately 500 miles of maintained system trails.

The area experiences short, mild summers and long, cold winters. Except for the summer season, precipitation is distributed evenly throughout the year. Mean annual precipitation in the mountains varies between 20 and 80 inches. Snowfall begins as early as late August and can accumulate 20 feet or more in some locations.

The Wilderness is an important watershed, containing the headwaters of 12 major streams. Eight of the over 50 lakes were altered to serve as irrigation reservoirs before the area was designated as Wilderness in 1964.

The geological record of the Wallowa Mountains, the oldest range in Oregon, is quite complex and unique. Rising out of the sea 100 million years ago, sediments were exposed that ultimately formed the Martin Bridge and Hurwall formations. Massive intrusions of magma spread under the surface forming the Idaho Batholith which now forms the central granitic core of the range. The limestone, shale, and greenstone sedimentary formations underwent subsequent folding, metamorphism, faulting, and erosion. Repeated lava flows followed, covering extensive areas with basalts, and once again, leveling the landscape. The mountain range, as it is known today, was uplifted along northeastern and southern faults to more than 5,000 feet above the surrounding plains. Extensive glaciation occurred during the Pleistocene epoch with valley and lateral glaciers flowing from the area near Eagle Cap

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* Acreage based on land status records. Acreage estimates from Total Resource Information (TRI) System is approximately 15,500 acres less.

peak. Consequently, the range is characterized by cirque basins containing numerous glacial lakes and meadows, and by steep ridges separating deep valleys that radiate from a central point.

Soils are quite diverse, deriving from parent materials of granites, basalts, volcanic ash, limestones, serpentines, and other sedimentary formations. Prospecting in the Wilderness has occurred periodically since 1862 with only minor success. Principal metals are gold, copper, silver, molybdenum, tungsten, and lead.

The Eagle Cap Wilderness supports nearly every plant community present in the Blue Mountains described in Plant Communities of the Blue Mountains in Eastern Oregon and Southeastern Washington, September 1973, by Frederick C. Hall. Plant communities range from low elevation grasslands and ponderosa pine forests through montane fir forests to alpine meadow and grass communities. Lower elevation tree species include grand fir, Douglas-fir, alder, ponderosa pine, lodgepole pine, willow, cottonwood, and quaking aspen. Higher elevations support subalpine fir, larch, mountain hemlock, Engelmann spruce, and whitebark and limber pine. Because of their topographical and geological uniqueness, the Wallowa Mountains contain granitic and limestone soils that support unique species of plants.

The Wallowa Mountains support the second greatest concentration of rare plant species in the state. Some of the species are endemic, circumboreal* species at the extreme southern limit of their range; others are disjunct populations of Rocky Mountain species in Oregon. There are no known plants in the Eagle Cap Wilderness presently classed as either endangered or threatened. However, there are 55 which appear on the October 21, 1981, Regional Forester's sensitive species list.

With the exception of a few segments with waterfall barriers, most large streams contain anadromous fish habitat. Species include steelhead and spring and fall chinook. Rainbow and eastern brook trout are abundant in most streams. Existing information indicates that all Eagle Cap lakes were naturally barren, but most have been artifically stocked and now contain populations of rainbow, eastern brook, or golden trout.

A wide variety of habitat types provide good opportunities for maintenance of wildlife species. Visitors may observe elk, deer, black bear, cougar, bobcat, bighorn sheep, coyotes, weasels, porcupine, otter, beaver, badgers, and pikas. The Wilderness also supports a herd of approximately 30 mountain goats which were planted on Chief Joseph Mountain in 1950. Birds observed might include bald and golden eagles, goshawks, Clark's nutcrackers, sandpipers, grouse, great horned owls, woodpeckers, and gray-crowned rosy finches, among many others. Some amphibians and reptiles indigenous to the Eagle Cap are rubber boas, garter snakes, salamanders, lizards, and tree frogs. Wildlife species presently classed as endangered, threatened, or sensitive which may be present include the peregrine falcon, bald eagle, ferruginous hawk, Swainsons hawk, and the western spotted frog.

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*Northern

History and Legislation

The Wallowa Mountains have long been a focus of human attention. The original inhabitants of Northeastern Oregon, the aboriginal American Indians, entered the area for hunting and fishing trips during the summer months. Evidence of their presence may be found in some of the same areas that are popular with today's visitors.

With the settlement of Wallowa, Union, and Baker counties by European immigrants came mining, trapping, sheep grazing, and Forest administration activities which left marks on the land. Historic resources from these activities include mine shafts and equipment, miner and trapper cabins, stock driveways and sheep camps, guard stations and lookouts, and primitive horse-drawn equipment used for dam construction and horse logging.

In 1930, 220,416 acres of the Wallowa Mountains were initially established as a Forest Service Primitive Area by the Secretary of Agriculture. The area was subsequently redesignated a Wilderness Area by the Secretary of Agriculture in 1940. In 1964, the Wilderness Act (Public Law 88-577) gave Congressional designation to the area, formally establishing the Eagle Cap Wilderness as part of the National Wilderness Preservation System. In 1972, Congress enacted further legislation (Public Law 92-571) adding 73,319 acres to the area, and the Oregon Wilderness Act of 1984 (Public Law 98-328) enlarged the Eagle Cap Wilderness by an additional 67,711 acres to its present size of 361,446 acres.

Recreation Use Patterns

An estimated 18,000 visitors come to the Eagle Cap Wilderness annually. Expressed in recreation visitor days (1 visitor for a 12-hour period), the average annual use is 106,400 RVD's.

Most of the visitors are Oregonians, and a significant portion of the use originates from the local three-county (Wallowa, Baker, and Union) area. Other users come from Pullman, Clarkston, and Walla Walla, Washington; Lewiston and Boise, Idaho; and Pendleton, Oregon. A significant portion of visitors also comes from the greater Portland area and the Willamette Valley.

As the snow melts from lower elevations, recreationists begin to visit parts of the area as early as May. However, the majority of users arrive during the peak summer season (July 4th through Labor Day). Other periods of significant use occur during deer and elk hunting seasons (late September to late November). From December through April use is very low although interest in winter activities is increasing.

Visitors engage in a wide variety of activities. The most popular activities are backpacking and horsepacking which provide opportunities for other popular activities such as photography, nature study, fishing, hunting, and mountain and rock climbing. Activities that are gaining popularity are cross-country skiing, snowshoeing, and llama-packing. Although many of the recreation activities pursued are not

wilderness-dependent, interviews with users indicate that they come to the area for solitude or for a wilderness experience rather than for a purely recreational experience.

MANAGEMENT DIRECTION FROM LAWS, REGULATIONS AND FOREST SERVICE POLICY

Management of the Eagle Cap Wilderness is guided by Federal legislation, Departmental regulations, and Agency policies. This guidance focuses on preserving the quality of the wilderness environment while providing opportunities for visitors to experience its benefits. Selected excerpts from wilderness management guidelines follow:

The Wilderness Act of 1964 (PL 88-577)

". . . shall be administered for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character . . ." (Section 2a)

". . . wilderness areas shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use." (Section 4b)

The National Forest Management Act of 1976 (PL 94-588)

"In developing, maintaining, and revising plans for units of the National Forest System pursuant to this section, the Secretary shall assure that such plans . . .

(1) provide for multiple use and sustained yield of the products and services obtained therefrom . . . and in particular, include coordination of outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness."

Department of Agriculture Regulations (36 CFR 293.1-.17)

". . . In carrying out such purposes, National Forest Wilderness resources shall be managed to promote, perpetuate, and, where necessary, restore the wilderness character of the land and its specific values of solitude, physical and mental challenges, scientific study, inspiration, and primitive recreation. To that end, (a) Natural ecological succession will be allowed to operate freely to the extent feasible; (b) Wilderness will be made available for human use to the optimum extent consistent with the maintenance of primitive conditions; (c) In resolving conflicts in resource use, wilderness values will be dominant to the extent not limited by the Wilderness Act, subsequent establishing legislation, or these regulations." (36 CFR 293.2)

Department of Agriculture Regulations (36 CFR 219.18a)

". . . Provide for limiting and distributing visitor use of specific portions in accord with periodic estimates of the maximum levels of use that allow natural processes to operate fully and that do not impair the values for which wildernesses were created.

Forest Service Manual (Chapter 2320)

"The manager, then, must face the paradox of wilderness as described by Congress, as seen or felt by those whose values vary, and the uses and activities permitted and prohibited in those areas by the Wilderness Act. He must solve the problem of use of the area while still keeping these parts of the natural world intact. Management of land as wilderness must be to ensure that, in every case, wilderness values are dominant, above compromise, and enduring. Management practices must be consistent over time and space, legally and administratively unimpeachable, and totally within the concept and philosophy of the intent of retaining an enduring resource of wilderness unimpaired for present and future use and enjoyment as wilderness."

Regional and Forest Direction

More specific management of the Wilderness is directed by the Environmental Assessment for the Interim Management of the Eagle Cap Wilderness dated 3/82 (Eagle Cap EA), Region 6 WROS Management Objectives (FSM 2320, R-6 Supp 56, 11/81), and Region 6 Wilderness Management Standards. This direction focuses on the Wilderness Recreation Opportunity Spectrum (WROS) concept as a central planning theme and on the Limits of Acceptable Change (LAC) system as a management tool for maintaining ecological and social conditions in the Wilderness at acceptable levels.

In March 1982, Alternative C of the Eagle Cap EA was selected as the preferred management direction for incorporation into the Land and Resource Management Plan (Forest Plan). The EA sets the tone for management goals of providing a wider range of primitive recreation, enhancing opportunities for solitude, implementing resource rehabilitation measures, controlling human use over time and space, and allowing natural forces to assume a role of increased importance. The Eagle Cap Wilderness Plan is an updated version of the 1982 EA, and it is consistent with the intent of Alternative C.

PLANNING FRAMEWORK

The Wilderness Recreation Opportunity Spectrum

The Wilderness Recreation Opportunity Spectrum (WROS) is a planning scheme used by Forest Service managers to allocate and manage opportunities for wilderness-based recreation. It describes, by varying combinations of conditions (biophysical, social, and managerial), the

extent to which wilderness settings can provide primitive recreational experiences for visitors. The underlying assumption is that the opportunities provided by each WROS class promote a diversity of experiences that enrich the quality of visitor recreation in wilderness settings.

The Forest Service recognizes three opportunity classes within the WROS. These classes are defined by the extent to which they afford recreational opportunities within a given set of Regional management objectives. Arranged along a continuum from most to least pristine, the classes are primitive-trailless, primitive-trailed and semiprimitive. Along this class continuum, natural settings and social influences vary inversely. Where natural settings are most pristine, social influences are least apparent. Where natural settings are least pristine, social influences are most apparent. Regional management objectives are to establish and maintain an appropriate balance between biophysical and social conditions for each class. Accordingly, as management strategies are implemented to achieve this balance, the influences of management will become progressively more evident in natural settings and more influential on social freedoms along the WROS continuum.

The management objectives within each WROS class are based on biophysical, social, and managerial components. Focusing on ecological elements such as soil, water, vegetation, fish, and wildlife, the biophysical component limits the extent to which the natural setting can be altered in each class. The social component sets the levels to which party sizes, encounters, camps, livestock, pets, and visuals can influence solitude. The managerial component, including signing, trails, regulations, monitoring, and enforcement, establishes the degree of management evidence and control permitted in each WROS class. The integrated management of these components provides the recreational opportunities afforded by each class in the WROS. A detailed description of Regional Management Objectives by WROS class is contained in Chapter 4 of the Forest Plan.

Eagle Cap Wilderness WROS Inventory

The Eagle Cap Wilderness supports two WROS classes: primitive-trailed and semiprimitive. Zones classed as semiprimitive total 44,370 acres, comprising 13 percent of the Wilderness. Providing moderate opportunities for primitive recreation, they are generally located throughout popular lake areas, along busy trail segments, at active administrative sites, within large outfitter camps, around private inholdings, and adjacent to boundary lines. A 1/4-mile semiprimitive buffer extending from the above sites and corridors was included to mitigate the influence of excessive human sights and sounds on adjacent primitive-trailed zones. Topography and vegetation generally preclude visitors' perceptions of these influences beyond 1/4-mile.

Zones classed as primitive-trailed include the remaining 301,545 acres, representing 87 percent of the Wilderness. This area provides opportunities for pursuing Eagle Cap's most primitive recreational experiences. The zone consistently meets the WROS criteria for its class with a few notable exceptions, primarily during the October and

November hunting seasons. During this period, use is concentrated along the Minam and Imnaha River corridors, and encounter levels exceed the standard for the primitive-trailed classification. Several campsites within these drainages also evidence ecological impacts exceeding the class standard. Because these encounters are unique and temporary with respect to normal use patterns during the overall season, and because these campsites are isolated and remote with respect to traditional travel routes, it was decided to include the areas in the primitive-trailed class. The perceived effect of these exceptions on the class's overall recreational opportunities is negligible.

Several isolated pockets within the Wilderness tend strongly toward the primitive-trailless. A 2-mile segment of the West Fork Wallowa River Trail exceeds the enounter standard for the semiprimitive class during July and August because of the heavy traffic generated by outfitter dayride operations at the Wallowa Lake Trailhead. Management is currently considering alternatives to reduce the encounters by relocating the day-ride concession to non-wilderness trails.

Several campsites and spur trails around heavily used lakes, especially in the Lakes Basin, presently exceed the ecological standards for the semiprimitive class. Campsite conditions in these areas are a primary management concern, and an active program has been implemented to restore these sites to Semi-primitive standards. As the restoration program progresses, it may become necessary to implement regulatory management actions to achieve and maintain the class standards. However, because of the short-term nature of these problems and the non-degradation approach to managing them, it was decided to include the associated areas in the semiprimitive zone.

Although some areas of the primitive-trailed zone meet the majority of criteria for classification as primitive-trailless, the constraints on grazing allotments and trail density preclude the more pristine classification. If in the future, selected grazing allotments are inactivated, a class change may be appropriate. Presently, however, the primitive-trailless class cannot be legitimately recognized in the Eagle Cap Wilderness given the explicit standards within the WROS framework.

Carrying Capacity

Recreational carrying capacity is a measure by WROS class of the maximum number of people who can obtain given kinds of recreational experiences at an established standard within the constraints of the resource capability. It is a function of combinations of physical and social factors interacting to absorb use and to screen the sights and sounds of human activity.

In determining a carrying capacity for each WROS class, a practical maximum capacity is sought. A practical maximum approach is preferred to a theoretical maximum because it reduces the acre-by-acre theoretical maximum that the resource can tolerate to a practical estimate of the use a given area can realistically support. The practical maximum

is actually an area's effective upper limit because it accounts for factors that are always present and significantly affect recreation use patterns.

Calculation of Carrying Capacity by WROS Class

Carrying capacity by WROS class is generated from the persons-at-one-time (PAOT) coefficients for Primitive-trailed and semiprimitive classes given in Table 8 of the ROS Users Guide. The coefficients are .008 and .083, respectively. These coefficients represent a theoretical maximum capacity, and are adjusted by local (Eagle Cap Wilderness) factors within each WROS class to determine a local practical maximum capacity. The PAOT coefficients are adjusted by factors to account for suitability of land for recreation use, biophysical constraints, social constraints, managerial constraints, and use seasons. A carrying capacity is determined for each WROS class and is expressed in recreation visitor days (RVD's).

The suitability factor represents the percentage of acres within the Wilderness that is suitable for recreation after eliminating steep slopes, rocky terrain, wet or boggy areas, and other areas that would be unattractive to recreationists. The acreage suitable for recreation is estimated to be about 50 percent for each WROS class. Accordingly, the PAOT coefficients are reduced by .5 for each class.

The biophysical factor reflects the amount of use campsites and trails can tolerate without exhibiting ecological deterioration. In the primitive-trailed class, the average campsite and trail can be used an estimated 30 percent of the time without noticeable ecological damage. Average campsites and trails in the semiprimitive class can be used an estimated 70 percent of the time without experiencing further impact. Accordingly, reduction factors for the primitive-trailed and semi-primitive classes are .3 and .7, respectively.

The social factor represents the percentage of campsites that could be simultaneously occupied without exceeding campsite density standards. Based on the distribution and concentration of campsites, 90 percent of inventoried campsites in the primitive-trailed class can be occupied at one time while only 60 percent of inventoried campsites in the semi-primitive class can be occupied at one time. Accordingly, reduction factors are .9 and .6, respectively.

The managerial factor represents the area that is allowed for recreational use after closures. The factor for the primitive-trailed class is 1 because virtually no managerial constraints exist in those areas. In the semiprimitive class, approximately 10 percent of the area is restricted by the 200-foot lakeshore closure, while 90 percent of the area is open to use. Therefore, the reduction factors are 1 and .9, respectively.

The use season factor represents the number of days in the managed season. The use season is approximately 150 days in the primitive-trailed class which tends to be lower in elevation and accessible

earlier and later during the year. The managed use season in the higher elevation semiprimitive class is approximately 90 days as use is concentrated within a 3-month period.

Carrying Capacity Equations:

RVD's/Acre/Year = (PAOT coefficient) x (suitability factor) x (biophysical factor) x (social factor) x (managerial factor) x (days in use season) x (number of visitor days per 24-hour period)

RVD's/Year = (RVD's/Acre/Year) x (Acres of Wilderness)

Primitive-trailed class:
(.008) (.5) (.3) (.9) (1) (150) (2) = .3240 RVD/Acre/Year
(.3240) (301,545) = 97,701 RVD/Year

Semiprimitive class:
(.083) (.5) (.7) (.6) (.9) (90) (2) = 2.8347 RVD/Acre/Year
(2.8237) (44,370) = 125,286 RVD/Year

Current Use Comparisons)

A comparison of present Recreation Inventory Management (RIM) use estimates and current carrying capacity estimates reveals that the primitive-trailed class is receiving approximately 26,300 RVD/Year, 27 percent of its maximum carrying capacity of 97,700. In the semi-primitive class, current use is 80,100 RVD/Year, 64 percent of its maximum carrying capacity of 125,300.

While current use is within carrying capacity estimates for both the primitive-trailed and semiprimitive classes, a cautious approach to managing use in the semiprimitive zones is encouraged because the carrying capacity estimate for those areas is only an average figure for the entire class. The Lakes Basin probably receives the majority of use in the semiprimitive area, and may be closer to approaching maximum carrying capacity than the 64 percent figure indicates. The Lakes Basin is an area of management concern, and comprehensive monitoring of use is planned.

Use Projections and Management Implications

Based on population projections, use of the Wilderness will reach 188,200 RVD/Year, a 77 percent increase, by the year 2030. At this rate, use in the primitive-trailed class will reach 46,500 RVD/Year, 48 percent of its carrying capacity. However, the semiprimitive class will reach 141,640 RVD/Year, exceeding its carrying capacity by 13%. If use in the semiprimitive class is allowed to increase unchecked, the area will reach its carrying capacity by the year 2015. Because the Lakes Basin receives considerably more use than other semiprimitive areas, it will reach carrying capacity much sooner.

From these projections, it is apparent that plans should be developed to manage this use before it adversely impacts the wilderness resource. Progressive monitoring of use and resource conditions will be implemented to assist in designing strategies to mitigate potential problems. Strategies employed could include education programs, area closures, campfire restrictions, group size limits, permit systems, or additional regulations. Planning would emphasize implementing the minimum amount of control necessary to accomplish management objectives in a given area.

Although the concept of a carrying capacity can provide a beginning for management direction, it is not an adequate measure of ultimate recreational or resource quality. It merely focuses on developing a specific number as an estimate of the amount of use an area can tolerate without causing adverse impact. However, much of the adverse impact of recreational use is not the result of too much use. Rather it is the kind, the timing, and the distribution of use, concurrently influenced by the knowledge, skills, and behavior of visitors that determines the level of impact in a given area. Furthermore, the amount of use is not always directly related to the amount of impact. A little use in a new area may cause a lot of impact, while a lot more use in a regularly used area may cause little additional impact. Because of the complexity in assessing impact in absolute terms, a specific numerical carrying capacity can be difficult to determine and impractical to use.

The traditional approach to carrying capacity can also misdirect managers' attention to managing numbers rather than solving specific social and ecological problems. Because the carrying capacity concept lacks an adequate and timely feedback structure, effective planning and management are handicapped. Planning must be based on definable management objectives, measurable monitoring criteria, and a comprehensive feedback mechanism, to evaluate proposed and executed management decisions. The Limits of Acceptable Change planning system, developed during the last decade, supplements the carrying capacity concept and satisfies the need for feedback as a prerequisite to more effective planning and management in wilderness.

Limits of Acceptable Change

The Limits of Acceptable Change (LAC) system describes a framework for establishing and maintaining acceptable ecological and social conditions in recreation settings. It represents a reformulation of the traditional recreational carrying capacity concept, emphasizing how desired conditions are maintained rather than how much use an area can tolerate. The planning procedure consists of a series of interrelated steps leading to development of a set of measurable criteria that define desired wilderness management objectives. It also identifies the management actions necessary to maintain or achieve these conditions, and it prescribes a feedback mechanism for monitoring management effectiveness.

To ensure that the WROS class standards are maintained, the LAC system will be incorporated into the existing WROS-based management framework as a supplement to carrying capacity estimations. Carrying capacity

estimations for the individual classes will guide management decisions until enough is known about resource and social conditions to allow for improved decisionmaking. Because carrying capacity estimations do not provide any criteria for measuring the condition of the biophysical, social, and managerial components of the WROS classes, a monitoring plan based on the LAC will be developed. It will outline measurable criteria for WROS classes which will enable management to judge whether WROS class standards are being maintained over time.

To integrate the LAC concept with a WROS monitoring plan, objectives of acceptable and achievable conditions for each WROS class are established. Then condition indicators and standards for the three components (biophysical, social, and managerial) of each class are selected. The indicators are regularly monitored to evaluate conditions with respect to the standards, and management actions are evaluated and revised when necessary. As future knowledge of WROS class conditions increases, Regional WROS standards may be adjusted as required by local conditions.

WILDERNESS MONITORING PROGRAM

To insure that WROS management objectives are met, the present Eagle Cap Wilderness monitoring program is being expanded and restructured. Currently, review of recreational use and related impacts occurs on a sporadic basis. No formal monitoring of WROS management objectives occurs. The expanded program will coordinate current review of grazing allotments, special-use permits, and outfitter/guide operations with the implementation of a formal WROS monitoring plan based on Regional management objectives.

Objectives

Several objectives will be met with an expanded monitoring program:

1. To improve the existing data base with which present conditions and trends will be evaluated.

2. To determine whether wilderness objectives are being met without exceeding limits of acceptable change.

3. To evaluate and localize WROS monitoring criteria for areas classified as semiprimitive and primitive-trailed and determine if the criteria are appropriate for those areas.

4. To determine if carrying capacity estimations are appropriate for WROS zones.

5. To provide feedback on management activities with which to evaluate and develop management direction.

Monitoring Responsibilities

The following elements of the biophysical, social, and managerial components are the focus of the monitoring program.

Biophysical	Social	Managerial
Soil	Encounters	Signs
Vegetation	Group Size	Trails
Water Quality	Camp Condition	Information
Air Quality	Livestock Use	Administration
Fish & Wildlife	Pets	Grazing Allotments
Fire	Litter	Outfitter/Guides
Forest Insects and Disease		

Monitoring of the biophysical, social, and managerial elements related to recreational use will be coordinated by Wilderness program personnel. Wilderness Rangers will gather the bulk of the information on social and biophysical elements. Wilderness employees are also responsible for monitoring outfitter-guide activities, recreational grazing, campsite conditions, and trail conditions, as well as other factors relating directly to recreational use.

Monitoring of special uses, commercial grazing, wildlife habitat, mining activity, insects and disease, and vegetation, is administered by the District Resource Assistant with assistance of wilderness employees and specialists as needed.

Prescribed fires are monitored by the Wallowa Fire Zone. Direction for managing prescribed natural fires is contained in the Fire Management Plan for the Eagle Cap Wilderness (3/82).

Fish and wildlife populations are monitored by the Oregon Department of Fish and Wildlife in coordination with the District Resource Assistant and Forest wildlife personnel.

District WROS Monitoring Plan

Regional wilderness management objectives will provide the foundation for an Eagle Cap WROS Monitoring Plan. The action plan will specify LAC indicators for each management factor, standards for indicators based on WROS class objectives, methods and frequency of monitoring, and provisions for periodic evaluation.

The plan, to be developed and implemented in 1986, will assist in future planning and management of the Eagle Cap Wilderness. An annual review of the plan by the Wilderness Management Team will document accomplishments, determine progress, analyze goals, and provide direction for the coming year.

DESCRIPTION OF MANAGEMENT STRATEGIES BY PRIMARY RESOURCES AND ACTIVITIES

Air and Water

Objective

To maintain or improve the quality of air and water in the Wilderness as influenced by human activities.

Current Situation

The Wilderness is a Class I airshed. Recent additions to the Wilderness from the Oregon Wilderness Act of 1984, are managed as Class I areas until completion of formal studies.

An active restoration program to maintain and improve watershed conditions in the Wilderness exists. However, erosion from recreational impacts is occurring on sites that have not yet been restored. Camping and grazing restrictions around lakeshores help to prevent further degradation of water quality. There is incomplete knowledge of how recreational use is affecting water quality because water quality is only occasionally monitored at the heavily used lakes.

Management Direction

Regional guidance directs wilderness managers to comply with Federal and State air quality laws based on the Final Environmental Impact Statement for Pacific Northwest Regional Guide, May 1984. Managers will cooperate with local air pollution authorities in monitoring activities which may result in new or modified sources of impact on the Wilderness. Monitoring of visibility and other air quality related values (AQRV's) will occur as part of the Wilderness monitoring program.

Federal and State water quality standards and Regional nondegradation policies will be observed. To prevent water quality degradation, restrictions on camping and grazing adjacent to lakeshores will continue. Water quality will be monitored at heavily used lakes and other riparian sites of management concern. Use of selected riparian areas may be restricted as necessary. Natural vegetation adjacent to lakeshores will be restored to protect and maintain water quality.

Soil and Vegetation

Objective

To maintain or improve the quality of soils and native vegetation with emphasis on locating and protecting rare, sensitive, threatened, and endangered plants that occur in the Wilderness.

Current Situation

Soils and vegetation have been impacted by recreational use in some of the heavily used areas. The extent of impact varies depending on the fragility of plant community species and the amount of use the site receives. Vegetation has been altered along trail corridors and at campsites. A number of campsites within the Lakes Basin and at other high-use areas exceed Regional standards for loss of ground cover, soil erosion and compaction, and elimination of dead, downed wood. Mirror Lake, in particular, has several heavily impacted campsites. Restoration efforts of lakeshore sites and abandoned trails have ameliorated soil erosion and compaction.

A considerable amount of soil movement and erosion is occurring on the southwest slopes of Cougar, Big Sheep, and Little Sheep ridges, resulting in a downward trend in range condition and plant cover. A team of specialists have established plots to study the problem. Changes in plant community composition and soil conditions may be occurring due to past livestock grazing and current heavy use by wintering big-game herds.

Several exotic plant species have been introduced by recreationists and stock. Exotic species are largely limited to trail corridors and areas directly adjacent to campsites. Tansy ragwort found in the Wilderness is being eradicated. No management effort is being made to maintain or perpetuate exotic species.

Although there are no plants known to occur in the Wilderness that are listed on the Federal Threatened and Endangered list, there are several that are listed as sensitive species. These species include Lomatium greenmanii, Bupleurum americanum, and Penstemon spatulatus. Except for Lomatium greenmanii, there has been no concerted effort to locate and classify these plants, and most sightings occur as a result of casual observation.

Management Direction

Healthy native vegetation will be maintained and no human-caused, long-term, measurable modification of plant succession or soil processes will be allowed to occur. Regional management objectives provide direction for soil and vegetation management. Restoration of sites exceeding Regional standards will continue. Areas lacking adequate dead, down wood may be closed to campfires, and use of sites may be restricted to allow for reestablishment of native vegetation.

A long-term study of the soil erosion problems on the southwest slopes of Cougar, Big Sheep, and Little Sheep ridges will be undertaken. Established study plots will be maintained until contributing factors and solutions are identified.

Tansy ragwort will continue to be actively eradicated. Other occurrences of exotics will be monitored, and management strategies may be implemented if exotics begin to be a problem or threat to native plant communities.

Sensitive plant species will continue to be recorded as they are observed. All project areas will be surveyed for listed plants before work is begun. Projects will be designed so that such species will be protected.

Vegetation and soil conditions will be monitored periodically throughout the Wilderness to ascertain conditions and trends.

Wildlife

Management Objective

To provide for a natural distribution and number of native species of fish and wildlife in coordination with State management objectives.

Current Situation

Current management follows direction in FSM 2300 and 2600 and is in cooperation with the Oregon Department of Fish and Wildlife (ODF&W). Wildlife populations are managed by ODF&W while the Forest Service is responsible for managing wildlife habitat. Changes in plant succession that could affect wildlife populations have occurred due to past fire suppression activities and commercial grazing. Hunting pressure, predator control, fish stocking, and other human activities have impacted native wildlife populations.

Present populations of wildlife, including nonindigenous species that were introduced prior to the Wilderness Act, are being maintained. Nonindigenous species include mountain goats; ptarmigan; and rainbow, eastern brook, and golden trout. There are no plans to introduce new species.

Species of naturalized nonindigenous fish existing in Wilderness lakes prior to 1964 are maintained. Lakes that are stocked with nonindigenous fish species are indicated in Table 1.

Bighorn sheep were successfully reintroduced in 1971. The herd has stabilized, and limited permit hunting is allowed. Mountain goats were introduced in 1950. The herd has stabilized at 33 animals. However, there is some concern that the limited gene pool represented in this herd could threaten its vitality. Bighorn sheep and mountain goat releases have been approved by environmental assessments and are being implemented.

Several threatened or endangered species, as identified by Federal or State lists, either inhabit or migrate through the area. These include the bald and golden eagles, peregrine falcon, ferruginous and Swainson's hawks, and the western spotted frog. Known threatened, endangered, and sensitive species are protected. Studies to find peregrine falcon nest sites are pursued by ODF&W.

Table B-1
EAGLE CAP WILDERNESS LAKE INFORMATION

Lake Name	Legal Location 1/	Surf. Acrs.	Max. Depth Feet	Approx. Acre Feet	Lake Survey Comp. 2/	Fishery Biol. Status 3/	Approx. Orig. Stckng	Existing Fish Species 4/	Supplemented Since Original Plant 5/	Current Stocking Plan or Schedule (Blank means no current stocking plans)	Aerial Stocking Used	Irrigation Use Related	Aerial Stocking Plans Comply with Wilderness Policy
Aneroid	T4SR45ES21	39	52	940	Yes	NS	1927	RB,BT	BT45,RB60,62 65,67,76,80	About 10,000 fing./3 yrs	Yes	No	Yes
Bear	T3SR43ES21	7	20	71	Yes	NS	Prel940	BT				No	
Bear	T5SR44ES29	9	12	50	Yes-FS	NS	Prel940	RB,BT	63		Yes		
Billy Jones	T3SR44ES32	6	66	167	Yes	NS	1928	RB	53,56,61,63 68,76,80	About 2,000 fing./3 yrs	Yes	No	Yes
Blue	T4SR43ES31	31	62	857	Yes	NS	Prel940	BT				No	
Bonny (2)	T4SR45ES26	6	4	8	Yes	B	Prel940					No	
Cached	T5SR44ES19	12	5	8	Yes	NS	1938	BT				No	
Catched Two	T4SR43ES02	14	61	503	Yes	NS	Prel940	BT				No	
Cheval	T4SR43ES21	10	38	236	Yes	NS	Prel940	BT				No	
Chimney	T3SR43ES22	19	59	449	Yes	NS	Prel940	BT				No	
Craig	T4SR44ES22	1				NS		BT					
Crater	T6SR44ES12	15	57	373	Yes-FS	NS	Prel940	BT	58,60,62,78, 80	Every 2-3 years	Yes	Yes	Yes
Crescent	T4SR44ES22	24	21	200	Yes	NS	1929	BT	45		Yes	No	
Culver	T5SR44ES32	8	28	54	Yes-FS	NS	Prel940	BT					
Curtis	T6SR44ES02	5				B?							
Deadman	T3SR44ES20	7				B							
Diamond	T5SR43ES08	11	24	139	Yes	NS	1929	BT				No	
Dollar	T4SR45ES29	2	23	7	Yes	B	Prel940		BT45,46,CT47		Yes	No	
Douglas	T4SR44ES25	44	80	1353	Yes	NS	Prel940	BT	45		Yes	No	
Eagle	T5SR44ES21	36	90	1520	Yes-FS	NS	Prel940	BT,LT,RB	48,50,52,68, 78,80	Every 2-3 years	Yes	Yes	Yes
E.Fk.Elk	T5SR43ES16	3				B?							
E.FK.W.Eagle	T5SR43ES27	6				B?							
Echo	T3SR44ES31	7	47	137	Yes	NS	Prel940	BT	CT61,62,RB68		Yes	No	
Echo	T5SR43ES21	30	15	164	Yes	NS	1926	BT	66		Yes	Yes	
Frazier	T5SR45ES06	7	5	16	Yes	NS	1940	BT	BT45,RB67		Yes	No	
Frances	T3SR44ES18	30	21	181	Yes	NS	1926	BT,RB			Yes	No	
Glacier	T5SR44ES01	41	124	2184	Yes	NS	Prel940	RB,BT	59,67	About 3,000 RB fing./3 yrs	Yes	No	Yes
Green	T3SR43ES31	24	28	461	Yes	NS	Prel940	BT			No	No	
Hawk	T4SR44ES09	3	18	24		NS		RB	45 thru 80	500 RB every 3 yrs	Yes	No	Yes
Hazel	T4SR43ES05	5				B		BT					
Heart	T5SR43ES25	3	23		Yes	NS	1948	RB	45,53,56,67 79,81	Every 2 years	Yes		Yes
Hidden	T5SR44ES09	16	14	129	Yes-FS	NS	Prel940	BT					
Hobo	T3SR43ES21	8	34	107	Yes	NS	1929	RB,GT	50,76,80	Every 3 years	Yes	No	Yes
Horseshoe	T4SR44ES23	40	73	1122	Yes	NS	1917	BT			No	No	
Ice	T4SR44ES12	46	193	2681	Yes	NS	Prel940	BT			No	No	
Jewett	T4SR45ES28	3	13	17	Yes	B					No	No	

1/ Willamette Meridian.
2/ No entry indicates no physical lake survey completed as of November 1961 by either Forest Service or Oregon Department of Fish and Wildlife.
3/ NS - Naturally barren, but stocked with fish.
B - Barren as of November 1981.
B? - Suspected to be barren but not verified.
4/ RB - Rainbow Trout; BT - Eastern Brook Trout; LT - Lake Trout; GT - Golden Trout; CT - Cutthroat Trout.
5/ Known years of supplemental stocking. All supplemental stocking after 1948 done aerially.

Table B-1 (Continued)
EAGLE CAP WILDERNESS LAKE INFORMATION

Lake Name	Legal Location 1/	Surf. Acrs.	Max. Depth Feet	Approx. Acre Feet	Lake Survey Comp. 2/	Fishery Biol. Status 3/	Approx. Orig. Stckng	Existing Fish Species 4/	Supplemented Since Original Plant 5/	Current Stocking Plan or Schedule (Blank means no current stocking plans)	Aerial Stocking Used	Irrigation Use Related	Aerial Stocking Plans Comply with Wilderness Policy
John Henry	T3SR43ES28	16	13	56	Yes	NS	Prel940	BT			No	No	
Lake Frances	T5SR46ES33	5				B?							
Last Chance	T4SR45ES15	5				B?					No	No	
Laverty (lower)	T3SR43ES22	4	12	12	Yes	NS	Prel940	BT			No	No	
Lee	T4SR44ES24	9	80	368	Yes	NS	Prel940	BT			Yes	No	Yes
Legore	T3SR44ES08	2	30	17	Yes	NS	Prel940	BT	57,65	500 BT every 3 years	No	No	
Lily	T4SR44ES23	4				NS					No	No	
Little Storm	T2SR43ES29	10				B?					Yes	No	
Long	T4SR43ES09	25	93	897	Yes	NS	Prel917	BT			Yes	Yes	Yes
Lookingglass	T5SR44ES32	33	35	728	Yes-FS	NS	Prel940	BT	43,50,52,62 78,80	Every 2 years			
Lost	T4SR44ES08	10				NS					No	No	
Little Frazier	T5SR44ES12	10	12	27	Yes	B	Prel940				No	No	
Maxwell	T3SR43ES35	17	50	315	Yes	NS	Prel940	BT			Yes	Yes	
Minam	T4SR44ES30	33	29	316	Yes	NS	Prel940	BT	RB63		Yes	No	
Mirror	T4SR44ES27	26	77	793	Yes	NS	Prel940	BT,RB	45,59,63		Yes	No	
Moccasin	T4SR44ES34	33	82	1012	Yes	NS	Prel940	BT	45				
Moon	T5SR44ES10	4				B?							
Olive	T5SR43ES19	2				B?					No	Yes	
Pine Lake(Upper)	T6SR45ES18	18	65	638	Yes-FS	NS	Prel940				No	Yes	
Pine Lake(Lower)	T6SR45ES18	3	23	29	Yes-FS	NS	Prel940				No	No	
Pocket	T4SR44ES36	9	58	234	Yes	NS		BT			No	No	
Pop	T5SR44ES18	5	26		Yes	NS	Prel940	BT			Yes	No	Yes
Prospect	T5SR44ES01	15	103	628	Yes	NS	1929	CT	54,57,61,63 68,76,80	About 2000 RB fing./3 yrs			
Razz	T4SR44ES13	13	24	213	Yes	NS	1929	BT	Treated 1953, stock GT54 57,58		Yes	No	Yes
Rogers	T4SR45ES16	5	4	8	Yes	NS	Prel940	BT	45		Yes	No	
Soldier	T5SR45ES36	3				B?							
Steamboat	T4SR43ES10	30	101	1341	Yes	NS	1917	BT			No	No	
Sunshine	T4SR44ES33	2				NS		BT			No	No	
Swamp	T4SR43ES15	43	23	311	Yes	NS	Prel940	RB,GT	53,54,58	2,000 RB every 3 years	Yes	No	Yes
Swamp Basin (2)	T3SR43ES08	10				B?			Treated 1953				
Tombstone	T5SR43ES17	16	14	60	Yes	NS	Prel961	BT			No	No	
Traverse	T5SR43ES21	20	26	223	Yes	NS	1931	BT				Yes	
Unit	T4SR45ES19	15	31	256	Yes	NS	Prel940	RB,BT	60,62,65,76 80	About 5,000 RB fing./3 yrs	Yes	No	Yes
Upper	T4SR44ES33	5				B					No	No	
Warm	T5SR46ES34	5				B?							
Wild Sheep	T4SR44ES31	3	6	6	Yes	NS	Prel940	BT			No	No	
Wood	T3SR43ES15	9	24	135	Yes	NS	Prel940	BT,GT	50		Yes	No	

1/ Willamette Meridian.
2/ No entry indicates no physical lake survey completed as of November 1961 by either Forest Service or Oregon Department of Fish and Wildlife.
3/ NS - Naturally barren, but stocked with fish.
B - Barren as of November 1981.
B? - Suspected to be barren but not verified.
4/ RB - Rainbow Trout; BT - Eastern Brook Trout; LT - Lake Trout; GT - Golden Trout; CT - Cutthroat Trout.
5/ Known years of supplemental stocking. All supplemental stocking after 1948 done aerially.

Numerous predator species inhabit the area, some of which collectively or singularly may prey on domestic livestock as well as natural food sources. Coyote, black bear, golden eagles, and cougar are the primary species.

Management Direction

To maintain wildlife indigenous to the area and provide for protection of populations of threatened or endangered species, habitat succession and diversity will be allowed to more closely approximate natural conditions, consistent with the protection and maintenance of the wilderness resource.

Cooperative management with the ODF&W will continue consistent with direction found in FSM 2300 and 2600.

Current policy will continue allowing succession to occur as practical. Habitat succession and diversity will approximate natural conditions as fires and other natural processes assume a more natural role in the environment.

Species of naturalized nonindigenous fish existing in 1964 may be maintained. The historic precedent established through successful fish stockings prior to 1964 can be continued in those lakes indicated in Table 1. Lakes barren of fish in 1964 will not be stocked. Those lakes which have historically been aerially stocked may continue to be aerially stocked if a fish population existed in 1964. Stocking plans will be reviewed annually.

Known threatened and endangered species will be protected and periodically monitored, consistent with FSM 1920.

Control of predators may be necessary on a case-by-case basis where serious loss of domestic stock occurs or where threatened and endangered species need protection. When this control is necessary it will be accomplished by methods which are directed at eliminating only the offending individual(s), and at the same time, protecting other wilderness resources. The Regional Forester approves predator-control programs on a case-by-case basis justified by a site specific environmental analysis. State laws apply and regulate the taking of predators.

All supplemental releases of wildlife will require environmental analysis.

Fire, Insects and Disease

Management Objective

To allow natural processes, including fire, insects, and disease, to resume a more natural role in the wilderness ecosystem, while not affecting adjacent nonwilderness values, life, and property.

Current Situation

Fire suppression activities over the past 50 years have reduced the effects natural fires would have had on the diversity of flora and fauna. The Fire Management Plan for the Eagle Cap Wilderness (3/82) has been approved for implementation by the Regional Forester, allowing naturally-occurring wildland fires to burn under certain conditions. This should allow fire to fill more of its natural role than has been possible in recent decades.

There are areas of pine beetle infestations in the Lostine Canyon additions to the Wilderness. No eradication efforts are currently occurring.

Management Direction

Natural processes, including fire, insects, and disease, are integral in the continuance of wilderness processes and ecosystems, and will be managed as natural, vital processes to the extent possible.

Management of fire will be guided by the Fire Management Plan and Forest Service Manual Direction (FSM 2324.23), which allows for gradually restoring fire to the wilderness ecosystem.

Outbreaks of insects and disease will be monitored consistent with direction found in FSM 5231 and 2324.1. If resource values outside of the Wilderness are threatened, control of insects or disease will be by measures that have the least adverse impact on the wilderness resource and that are most compatible with wilderness management objectives. The pine beetle outbreak in the Lostine Canyon will be allowed to run its natural course unless it threatens resources outside of wilderness lands. Then action will be considered to control further spread of the insect.

Scenic and Visual Resources

Management Objective

To prevent human-caused visual impacts and to mitigate those which presently exist.

Current Situation

In the past, trail construction and relocation proceeded with minimal consideration for visual impacts, resulting in some highly-visible trail routes, blasting scars, and other construction scars. Metal culverts were commonly used and are visible in some places.

Many of the highly visible improvements, such as hitchracks and outhouses, have been removed. A few improvements are still present.

Impacts to lakeshores from recreation use are visible. Some activities such as camping and livestock grazing, are restricted within 200 feet of lakeshores. This is intended to control further impacts and to assist in restoring lakeshore vegetation.

Several administrative sites, including snow measuring sites, are visible in the Wilderness.

Management Direction

Preservation of scenic values is a primary management objective. Management of scenic resources will be guided by Regional visual quality standards.

All trail reconstruction and relocation projects will be designed to minimize the visual impact to the area. Rehabilitation of abandoned trail routes will control erosion and minimize visibility of old scars. Metal culverts will be replaced with native materials as they require maintenance or replacement.

Efforts to locate, record, and schedule removal of all unnecessary improvements will continue.

Administrative facilities will be maintained with regards to wilderness values. Maintenance or replacement of equipment will be sensitive to the protection of visual qualities.

Lakeshore restoration will continue to encourage the reestablishment of native vegetation in denuded areas.

Visitor Management

Management Objective

To provide for and maintain a spectrum of recreational opportunities as defined by Regional WROS objectives with a minimum of regulation.

Current Situation

A WROS inventory has been completed for the Wilderness and carrying capacity estimated for each WROS zone. Current use levels are generally within carrying capacity estimates in the primitive-trailed and semiprimitive zones. However, there is incomplete knowledge on visitor-use patterns because monitoring of use patterns has not occurred in the past. Encounter levels occasionally exceed WROS standards in the Lakes Basin, and use is approaching carrying capacity limits. This is evidenced by crowding that occurs during holiday and heavy-use weekends, particularly at Mirror and Moccasin Lakes. Use levels and resulting encounters along the Minam and Imnaha River trail corridors exceed WROS standards for the primitive-trailed class during hunting season. Standards for use levels and encounters are often exceeded during the summer peak season on the East and West Fork Wallowa River trails because of the numerous private parties and outfitter day-rides that use these trails.

Regional standards for group size are commonly exceeded in both WROS classes. The Wilderness is visited by many religious, educational, scout, and horse groups which often exceed Regional standards for group size. Horse parties, in particular, often exceed the limit of 12 people and horses combined. The average horse party size is 6 people and 12 horses.

Conflicts between hikers and horse users frequently occur, particularly on the West and East Fork Wallowa River trails. Letters received from the public express dissatisfaction with the amount of horse use and crowding in high use areas.

There are no regulations in effect to control use levels or distribution of visitors. Use within 200 feet of lakeshore is restricted to reduce congestion and crowding around lakes and to protect lakeshore ecosystems. The Regional group size standard is not actively enforced.

Management Direction

To provide a spectrum of opportunities for solitude and unconfined recreation while perpetuating the wilderness resource, visitor behavior must be managed with a minimum of direct regulatory control.

Management of recreational use will be consistent with direction found in the National Forest Management Act (NFMA 1976), Department of Agriculture regulations (36 CFR 219.18a), FSM 2300, and Regional WROS management objectives.

Monitoring of recreational use will establish baseline trend and condition information. As data are collected and analyzed, the appropriate management approach can be taken to correct unsatisfactory conditions.

Management of large groups will be aggressively pursued to meet WROS standards. Group sizes will generally comply with Regional standards of a combined total of 12 horses and people. Exceptions for groups up to a combined total of 30 people and animals may be approved by the Wilderness Manager. Groups exceeding a combination of 12 horses and people will be contacted to arrange an educational program.

To resolve hiker and horse group conflicts on the West and East Fork Wallowa River trails, the possibility of relocating the guide-day rides to alternative trails is being studied. Limits on the size of these groups is also being considered. Correspondence from wilderness visitors will be monitored in resolving the problem.

Periodic peaks in use levels along the Minam River and Imnaha River corridors which exceed WROS standards will be tolerated as they are limited temporally and spatially, and do not threaten the overall recreational opportunities of the primitive-trailed class.

Management techniques and regulatory controls will be used as necessary and appropriate to meet WROS management objectives. The existing 200-foot lakeshore restrictions will remain in effect and will be actively enforced. In the future, area closures, use limits, fire closures, and special-use permits for large groups may be employed as necessary to

meet management objectives. The Lakes Basin is a particular areas of management concern. Controls on use may be necessary in the area in the near future to remain within carrying capacity and to meet WROS management objectives.

Education and Information

Management Objective

To reduce adverse impacts on fragile wilderness ecosystems by educating all users about low-impact camping methods.

Current Situation

Many otherwise unnecessary adverse impacts on fragile wilderness ecosystems are caused by a lack of knowledge concerning good camping ethics and a lack of sensitivity to wilderness values.

Wilderness information is available from receptionists at District offices surrounding the Wilderness. Wilderness Rangers provide information and educational contacts to potential and actual visitors at the Wallowa Lake Visitor Center and Lostine Canyon Guard Station. Wilderness Rangers also make educational contacts in the field.

Education programs designed for local 6th grade classes, colleges and universities, and other special groups are conducted during the off-season. These programs, emphasizing wilderness values, reach potential and actual wilderness visitors in towns, at trailheads, and in the Wilderness.

Educational efforts also include public service announcements, news releases, and a wilderness outreach program to share management ideas with other wilderness areas.

Management Direction

To better protect the wilderness resource from adverse impacts caused by unaware visitors, wilderness education efforts will be expanded to reach a greater number of potential and actual visitors.

Active wilderness education efforts will be expanded to reach all user groups. Efforts will focus on large groups such as Boy Scouts, local clubs, and religious groups, with emphasis on contacting horse groups which have the potential for causing considerable damage. Large groups will be contacted to arrange educational programs prior to visiting the Wilderness.

Training for receptionists will be provided on low-impact camping methods and wilderness values. News releases, public service announcements, and wilderness outreach programs will be continued.

Information will continue to be dispersed at Wallowa Lake and Lostine Guard Stations. Wilderness Rangers will patrol the backcountry during the summer and hunting seasons to educate the public.

Law Enforcement

Management Objective

To gain compliance with all laws and regulations pertaining to National Forests and Wilderness.

Current Situation

Compliance with Federal regulations is effected through education and persuasion whenever possible. Lakeshore restriction violations are fairly common at heavy-use lakes, motorized use regulations are violated occasionally, particularly during hunting season, and some illegal outfitting occurs. Misdemeanors comprise the majority of enforcement problems. Warning notices are issued for first-time offenders of minor violations. Citations are issued when persuasion and education fail to gain voluntary compliance with regulations and for more serious violations such as motorized use in wilderness and illegal outfitting. Wilderness Rangers receive Level II law enforcement proficiency training. All wilderness employees and volunteers receive training in law enforcement policies and strategies.

Management Direction

Compliance with Federal regulations will be gained through education and persuasion whenever possible. If these methods fail to gain compliance, warning notices or citations will be issued. All Wilderness employees will receive law enforcement training. Proficiency training for Level II law enforcement authority will be provided to Wilderness Rangers and employees with public contact responsibilities. Wilderness law enforcement will be coordinated with the Forest Special Agent and other law enforcement personnel and agencies as needed.

Search and Rescue

Management Objective

To provide assistance and support in search and rescue missions within the Wilderness.

Current Situation

Assistance is provided to agencies involved in search and rescue activities within the Wilderness boundaries. Radios, maps, and personnel with local expertise, and other supplies as requested are available for support. Cooperative efforts are arranged through the District Resource Assistant and the Wilderness Management Officer.

Management Direction

Search and rescue operations will normally be directed by county sheriffs. Agency assistance and support will be provided consistent

with Forest Service direction. The Forest Service will take responsibility for organizing and conducting search and rescue missions for Forest Service employees.

Trailhead Facilities

Management Objective

To provide adequate user facilities at trailheads in order to minimize visitor impacts adjacent to and within the Wilderness.

Current Situation

There are 47 trailheads accessing the Wilderness. Trailhead facilities such as hitchracks, stock loading ramps, vault toilets, and bulletin boards, are present in various types and numbers at the most accessible trailheads. Infrequently used trailheads are minimally developed. Some facilities are in disrepair or are deteriorating because maintenance is inadequate.

Trailhead improvement and expansion are currently being planned for McCully Creek and Bear Wallow trailheads.

Many of the eastern and southern trailheads are located on Hells Canyon National Recreation Area, Wallowa Valley Ranger District, Pine Ranger District, and La Grande Ranger District.

Management Direction

Trailheads will be updated and improved as funding allows to a capacity consistent with the capacity and character of the area served; substandard facilities will be removed as new ones are installed.

Bulletin boards will be installed at all trailheads, and other facilities will be provided as needed.

Plans will be developed for expansion and improvement of McCully Creek and Bear Wallow trailheads. Where additional facilities are determined to be consistent with wilderness capacities they will be designed, constructed and maintained with regard to visitor needs, maintenance considerations, cost effectiveness, and useable area.

Trailheads falling under the jurisdiction of other Districts will be cooperatively planned and maintained to meet wilderness needs and standards.

Signing

Management Objective

To provide only those signs that are necessary for visitor protection and orientation and are consistent with wilderness values.

Current Situation

Current signing meets Regional wilderness signing standards and Forest Service Manual (2300) direction. Wilderness boundaries are signed and maintained at all entry points, and wilderness signs are present at all trail junctions. A wilderness sign plan has been completed.

Management Direction

Signing will be maintained for visitor safety and information. Signs will be maintained to Forest Service Manual direction and Regional wilderness sign standards. All signs will be maintained on a regular basis.

Trail System

Management Objective

To maintain a wilderness trail system while minimizing physical and visual impacts upon the land, and to provide for visitor safety, a range of challenge for wilderness users, and resource protection.

Current Situation

A recreational trail system has evolved from trails constructed for fire control, administration, recreation, and grazing access. Until recent years, wilderness values did not influence trail construction and maintenance. There are varying conditions and construction standards of trails within the system, and several unnecessary trails. Many segments of abandoned trail have not been rehabilitated.

Metal culverts have been installed in the past to facilitate drainage. Bridges exist for resource protection, visitor safety and convenience, and range improvements.

A trail condition inventory has been completed. Many trails have segments which are hazardous due to steep grades, boggy conditions, or insufficient tread. Some trails become extremely hazardous during icy and snowy conditions.

All system trails are maintained to Regional trail standards. New constructions, reconstructions, and relocations are considered only for resource protection and visitor safety, with a regard to protecting scenic qualities.

Management Direction

Trail management will be based on visitor safety, resource protection, and preserving wilderness integrity. A Five-Year Trails Operations and Management Plan will be maintained and updated annually. System trails will be maintained to Regional trail standards. There will be more emphasis placed on eliminating safety hazards existing on system trails. Selected primitive trails and all short-term trails will be abandoned.

New construction will be considered for resource protection only. Reconstructions and relocations will be considered for resource protection and visitor safety. All trail projects will require a site-specific environmental analysis. Rehabilitation will be provided for past and future reconstructions and relocations. Bridges will be constructed and maintained for resource protection and visitor safety. Those not meeting the requirements will be removed.

All trail structures and improvements will be constructed from native material or other material compatible with the wilderness setting. However, metal bottomless arches may be considered as a last resort in those situations where they would provide the only feasible construction material. Round metal culverts will not be installed. The decision to use man-made materials will require site-specific environmental analysis.

Restoration

Management Objective

To provide for maintenance and improvement of watersheds and selected areas that do not meet WROS soil and vegetation standards.

Current Situation

A comprehensive restoration program exists, focusing on abandoned trails and campsites within the 200-foot lakeshore zone. Restoration efforts to date have focused in the Lakes Basin. Locally obtained native plants have been transplanted into denuded sites. Wilderness Rangers perform other basic restoration measures such as removing fire-rings, signing the sites, making educational contacts, and enforcing closures. Sites are slowly recovering, however problems with enforcement have hindered the success of the program. Restoration efforts have been received favorably by the public. Many potential restoration sites exist outside of the Lakes Basin area, including problem trails, lakeshore sites, and legal sites that exceed WROS standards for campsite impacts.

Management Direction

To maintain and perpetuate the wilderness character of the area, an aggressive restoration program is needed. A comprehensive program to restore abandoned trails, lakeshore campsites, and other sites not meeting WROS standards will continue. Direction for these efforts is provided in the FSM 2300, and the Regional WROS Management Objectives. A 5-year restoration action plan will be updated annually. Wilderness Rangers and volunteer service groups will continue the restoration work. A few sites not meeting WROS standards may be selected as exceptions to restoration efforts if the sites are well-located, have no adverse effects on watershed conditions, and keep unacceptable impacts from occurring in other areas by maintaining the site in its present condition.

Administrative Facilities

Management Objective

To provide for maintenance of administrative facilities which are necessary for efficient management and protection of the wilderness resource.

Current Situation

Administrative facilities which are currently maintained for resource protection and user safety include: Aneroid, Standley, Millard, Bear Creek, and Catherine Creek cabins; range improvements; snow survey equipment at Mirror Lake and Standley Ridge; and a fire lookout at Mule Peak. Bear Creek Cabin has been nominated to the National Historic Register, and is currently on the NHR Nomination List.

Other facilities within the Wilderness which are not maintained for resource protection, including cabins on recently acquired land, have been allowed to remain but have not been maintained.

Management Direction

The continued maintenance of administrative facilities is essential to an effective and efficient wilderness management program. Existing administrative facilities listed above will be maintained for resource protection and user safety. Management plans are being prepared for Aneroid, Standley, Millard, Bear Creek, and Catherine Creek cabins to determine National Historic Register eligibility, in accordance with criteria outlined in 36 CFR 800-6.

Other facilities, including cabins on the recently acquired Land Ranch, will be allowed to remain, but will not be maintained. When they become unsafe or unserviceable they will be removed.

Maintenance of administrative facilities will continue in accordance with Forest Service Manual direction (2324.23). Facilities no longer needed will be removed from the Wilderness.

Communications

Management Objective

To provide adequate radio coverage of the Wilderness for administrative and emergency purposes consistent with wilderness values.

Current Situation

The Wilderness is covered by two frequencies: W-W 1, used by the north end of the Forest and the fire zone; W-W 2, used by the south end Districts. With the present equipment, there are numerous areas in the Wilderness where coverage is incomplete and direct communication

between points in the Wilderness is undependable. However, recent experiments with better equipment indicate improved communiction capabilities within the Wilderness.

With the exception of Mule Peak Lookout, communication sites are located outside and adjacent to the Wilderness boundary. A hilltop survey, completed in 1984, identified a network of potential booster sites. Sites are indicated on maps available at the Forest Supervisor's headquarters.

Management Direction

Radio coverage is essential to effective management. Use of facilities outside the Wilderness and increased power and performance of existing equipment will be considered before installing permanent equipment within the Wilderness. Temporary relay stations or personnel stationed on high points during emergencies will be preferred to installing permanent relay sites within the wilderness. The Forest is in the process of developing a Forest Electronic Site Plan which may include sites within the Wilderness.

Special Uses

Management Objective

To administer each special use according to Forest Service direction while protecting the Wilderness resource.

Current Situation

Special use permits for irrigation projects, snow survey facilities, and drinking water spring developments are presently allowed in the Wilderness. Drinking water spring developments support Wallowa Lake State Park, Red's Horse Ranch, and Minam Lodge. A site at Harris Spring is being considered to provide drinking water for Wallowa Lake residents. Irrigation ditches are Blue Creek, Silver Creek, and Alan Duncan. Irrigation reservoirs are Minam, Echo, Traverse, Upper Pine and Lower Pine, Crater, Eagle and Lookingglass Lakes. Pasture and airstrip uses are permitted at Red's Horse Ranch and the Minam Lodge. Most of these uses predate the Wilderness, and a few predate the Forest Service. Pre-existing uses within recently included Wilderness additions are managed under special use according to FSM 2700.

Management Direction

The management of special uses will be in accordance with the Wilderness Act and Forest Service Manual direction (FSM 2700). Existing special uses will be allowed to continue until no longer needed. Pre-existing uses within recent additions will be allowed under special use permits where this use does not conflict with wilderness values. All future physical structures will be located out of sight and designed to blend in with the surrounding area. Future applications for special uses will be accepted and evaluated according to FSM direction.

Outfitter and Guide Operations

Management Objective

To permit appropriate outfitter/guide operations that accommodate public needs, provide quality services, and protect wilderness resource values.

Current Situation

Beginning before the area was established as a wilderness, outfitting and guiding have been recognized as traditional and appropriate uses of the Eagle Cap area. The local culture and economy has long supported a livestock-oriented outfitter/guide operation and the role of outfitter/guides is well established in the area. Recreation use data also clearly indicate a significant public demand for outfitter/guide services.

Outfitter/guide operations presently offer the wilderness public a wide range of recreational opportunities throughout the year. Traditional services include day-use horseback rides, drop and spike camps, horse pack trips, and hunting trips. More recently, backpacking, ski touring, river rafting, and llama packing services have been offered.

Most outfitter/guide use occurs during the summer and fall months. Organized groups intermittently sponsor backpack trips during the summer. A moderate amount of ski touring has been generated during the winter and early spring, and a minimal amount of river rafting occurs in the late spring.

Based on annual RIM use estimates for the previous three years (1982-1984), outfitter operations account for 6 percent (6800 RVD) of the area's total annual use. Presently, a total of 14 permittees regularly provide outfitter/guide services for recreational activity in the Wilderness. As indicated by the following table, some overlap exists among permitted activities:

Activity	Permittees	Use
Day-Rides	5	Priority/Temporary
Horse Packing	10	Priority/Temporary
Llama Packing	2	Temporary
Ski Touring	1	Temporary
River Rafting	Variable	Temporary
Hunting	9	Temporary
Backpacking	Variable	Priority/Temporary

Because of short use seasons and variable demand for specialized services, most outfitter/guide operations are marginally viable. Even during the peak-use summer season, recreational demand is easily accommodated by present permittees. With the exception of hunting season, most permittees have indicated that they could accommodate

considerably more use than presently occurs. Except for some specific times (hunting season) and specific areas (Lakes Basin), capacity is generally not a factor limiting present use.

Several new applications for outfitter/guide services are received each year and considered with respect to activity, space, and need in accordance with FSM direction. The District also works closely with the Eastern Oregon Outfitter and Guide Association (EOOGA) in determining whether to approve new applications. Most of these are not approved because services are adequate for meeting demand and additional competition is not justified.

Permitted operations are regularly monitored by the District. Periodic meetings with each permittee clarify policy changes, update operating plans, review recent performance and facilitate open communication. Field operations are inspected and documented as needed to ensure compliance with terms of permits. Annual coordination meetings are hosted by EEOGA. Representatives from the Forest Service, Oregon Department of Fish and Wildlife, and the Oregon State Police attend.

Beginning in January and continuing through mid-April, overnight ski touring is offered in the McCully Creek drainage. The area also receives some public use, but no conflicts exist, and the use is well within capacity. Further opportunities exist throughout the Wilderness to accommodate future demand for day and overnight ski touring services.

From mid-May through mid-June, occasional river rafting trips originate from Red's Horse Ranch on the Minam River. The first 15-mile portion of the trip takes place in the Wildernesss and can be completed in less than one day. Although no wilderness campsites are presently used, camps could be assigned if requested. Present demand for the service is low, and only one or two trips occur each year. Capacity is limited by the peak-flow period which is approximately one month. Without associated camping, the river could accommodate one party per day. With associated camping, capacity would be reduced to one party every other day. Accordingly, the river can presently accommodate a significant amount of additional rafting use.

By mid-June, day-rides can access lower elevation trails, and these services continue through mid-December. Wilderness day-rides are presently associated with four entry portals: Wallowa Lake, Hurricane Creek, Eagle Creek, and Lostine Canyon. Because day-rides are generally an incidental service, their operation is dependent on a high volume of traffic in the associated area. Consequently, demand for day-rides is high at Wallowa Lake, but low at the other three portals.

At Wallowa Lake, the two present permittees are adequately meeting the public demand, and no additional day-ride permits are planned. Encounter levels and group sizes on trails associated with the Wallowa Lake operations often exceed WROS class standards, and conflicts with other visitors occur frequently on these trails. Because of the frequency of encounters and conflicts generated by these day-ride services, it appears that the operations are near capacity.

Neither the Hurricane Creek nor the Eagle Creek operations appear to be near capacity. Use is low, and demand is easily accommodated by the present permittees. Little conflict exists between these operations and other wilderness visitors. No additional permits are planned for these areas.

Day-rides have been permitted in the Lostine Canyon since 1983. Rides can access the Wilderness through any of the five Lostine Canyon trailheads, and the operation is meeting present demand. Work has begun on a Developed Recreation Composite Plan for the Lostine Canyon that, when implemented, could increase the demand for outfitter/guide services. If a significant increase in demand for day-rides results, an additional permit may be allocated to accommodate that need.

Horsepacking is the most frequent service provided by outfitter/guides in the Wilderness, and services are allocated among ten permittees. Horsepacking operations support progressive pack trips and drop camps during the summer and hunting camps during the fall. Horsepacking operations currently serve the entire Wilderness, and begin as early as mid-May on lower elevation trails, continuing through mid-November for fall hunts. Although demand for horsepacking services varies annually, it is well within the outfitter/guides' ability to meet it. Consequently, no new permits are planned for horsepacking operations. To maintain WROS class standards and to prevent exceeding resource capacity, some stock restrictions are being considered for heavily used alpine and subalpine areas, particularly the Lakes Basin.

A trend toward llama packing (walking and leading llamas) appears to be occurring, and the District issued two temporary permits for that service on a trial basis in 1985. Llama packing provides an alternative preferred by some users to the more traditional horsepacking mode of travel. The service is offered from June through September. Although future demand is difficult to assess, present use indicates that the Wilderness could support at least the present two permittees on a permanent basis. Local horsepackers have voiced concern that llama packing will impact their business. However, it appears that the two uses compete for different markets and are economically compatible. Annual monitoring is planned to help evaluate the potential for llama packing.

Backpacking services are sponsored by organized groups such as the Sierra Club and Outward Bound. These permittees usually obtain National or regional permits and visit the Wilderness intermittently throughout the year. Institutional and other organized groups (college, church, service, scouts) are allowed to use the Wilderness on a non-permitted basis from mid-June through mid-September. However, these groups frequently exceed the WROS class standards for size, and management is considering alternative methods for regulating their use. Backpacking use is generally within capacity in the primitive-trailed areas, however use is above capacity in many semiprimitive areas, particularly in the Lakes Basin. Strategies are being considered to redistribute future organized backpacking use in semi-primitive areas.

Hunting services draw a considerable amount of use to the Wilderness from mid-August through mid-December. Elk, deer, bear, bighorn sheep, and cougar hunting generate heavy seasonal use for nine outfitter/guide operations. Almost every drainage in the Wilderness contains permitted hunting camps, and the use reaches capacity during elk seasons. Demand for hunting services is high, and the present number of permittees occasionally fails to accommodate the demand during elk seasons. Although the allocation of additional permits would help accommodate this demand, it would decrease the quality of the hunting services offered by outfitter/guides because of the higher density of hunters using these areas. Consequently, no additional permits are planned.

Management Direction

Outfitter/guide services should, with respect to public needs and resource capacities, furnish opportunities for the public to use and enjoy the Wilderness. Established operations will continue, subject to the terms of annual operating plans and special-use permits. New applications will be evaluated on the basis of public need, resource capacity, and economic viability according to the direction contained in FSM 2720. Applications for new services or temporary uses where no capacity has been determined will be evaluated for approval on a trial basis. Approved services will be monitored and evaluated with respect to demand, capacity, viability, competence, and compatibility criteria prior to permitting the services as priority use.

A variety of recreational services will be permitted in the Wilderness. Based on historical use, public demand, recent trends, use apportionment, resource capacities, permittee consultation, administrative costs, agency direction, and Federal law, the following services and their respective capacities are established for the Eagle Cap Wilderness:

Activity	Permittees	Use*
Day-Rides	1	Priority
Day-Rides	4	Temporary
Horse Packing	3	Priority
Horse Packing	7	Temporary
Llama Packing	2	Temporary
Ski Touring	1	Temporary
River Rafting	Variable	Priority
Hunting	2	Priority
Hunting	7	Temporary
Backpacking	Variable	Temporary

*Priority and temporary use is subject to change as necessary.

To achieve WROS class standards, to maintain resource capacities, and to reduce conflicts with private recreationists, additional regulation of certain aspects of outfitter/guide operations in certain locations appears to be warranted. Specific problems with campsite locations, group sizes, and stock use will be addressed with permittees and resolved. The following management actions, or combinations thereof, will be considered to ensure the maintenance of standards and the resolution of conflicts.

1. Limit group sizes to a combined total of 12 people and animals, allowing up to a combined total of 30 people and animals with prior written permission.

2. Limit group sizes to a combined total of 12 people and animals in the Lakes Basin and selected lakes.

3. Redistribute day-rides on the Wallowa River trails.

4. Limit progressive campsites to assigned locations in the Lakes Basin and selected lakes.

5. Limit drop camps with overnight stock to locations outside the Lakes Basin and selected lakes.

6. Eliminate spike camps in the Lakes Basin and selected Lakes.

7. Limit length of stay in the Lakes Basin and at selected lakes.

8. Require commercial horse feed to be used at camps in the Lakes Basin and selected lakes.

Permittees will be required to meet formally with District administrators each year prior to their use season for the purposes of updating operating plans, discussing camp conditions, reviewing policy changes, and evaluating quality of service. Field inspections of each permittee's operation will also be conducted and documented annually.

The outfitter/guide program will be reviewed annually. Services provided by each permittee will be monitored for compliance with permits through permittee meetings and field inspections. Resource and social conditions in the Lakes Basin and at selected lakes will receive more frequent monitoring. Where wilderness values are jeopardized or conflicts between groups occur, mitigating action may be taken on permitted services.

Livestock Grazing

Management Objective

To maintain domestic and recreational stock grazing at a level based on the capacity of the range resource and to prevent the deterioration of other resource values that may result from grazing.

Current Situation

Commercial and recreational grazing is allowed under the Wilderness Act of 1964 and is managed under the direction of FSM 2200 and 2300. Current commercial grazing capacity includes seven bands of sheep during the summer months. Portions of several cattle allotments are also included in the Wilderness as a result of recent additions. Commercial grazing lands within the Wilderness are neither increasing nor decreasing. Plans are prepared for each allotment. These plans recognize conflicts with other resources, and commercial grazing is not allowed in high recreation areas such as the Lakes Basin. Noncompliance of operating plan terms has been a problem in the past. However, constant monitoring of bands in the field has gained better compliance. There have been problems with cattle straying from allotments and into the Wilderness, particularly in the Catherine Creek drainage.

There are several range improvements in the Wilderness, including watering troughs in the McCully Creek drainage and on Cougar Ridge, a drift fence on Summit Ridge, and sheep holding pens on Standley Ridge. Plans are being considered for installing a drift fence on the Catherine Creek allotment.

Parts of the Wilderness are heavily used by recreational horse groups. Six Mile Meadow received excessive use in the past and is now closed to all grazing including recreational livestock. Other areas in the semi-primitive zone which are sometimes overgrazed by recreational stock, include Queen's Meadow in the Lakes Basin and the subalpine meadows surrounding Steamboat, Swamp, Minam, Mirror, and Horseshoe Lakes. Grazing is not allowed within 200 feet of all lakeshores as a means of protecting water quality.

Management Direction

Active management and monitoring of commercial and recreational grazing will be continued to assure that the Wilderness is not experiencing downward trends in condition. Grazing by commercial and recreational livestock will be managed according to the Forest Service Manual 2200 and 2300.

Allotment management plans that address the management of all affected resources are used as management tools to regulate grazing use in the Wilderness. Annual operating plans will be devised to allow for yearly variation in climate and plant phenology. Grazing will be managed to allow natural succession of plant communities and protection of threatened, endangered, or sensitive species. All commercial grazing will be closely monitored to assure compliance to the operating plan.

Existing range improvements will continue to be maintained. Those no longer needed will be removed. The need for future improvements will be analyzed during allotment planning.

Recreational livestock grazing will be managed to prevent degradation of resources. Monitoring of resource conditions in popular areas will occur periodically. The current grazing closure in Six Mile Meadow will continue.

Minerals and Geothermal Resources

Management Objective

To manage all mining operations in accordance with the Wilderness Act and Forest Service Manual 2800 and 2300 while protecting the wilderness environment.

Current Situation

All mineral exploration in the Wilderness was terminated by provision in the Wilderness Act as of December 31, 1983. Currently there are claims near Blue Lake and on Chief Joseph Mountain which are being maintained but not actively operated.

Management Direction

Regulations for mining in the Wilderness will be applied to minimize both temporary and permanent physical and aesthetic impacts on the wilderness resource. Mining claims will continue to be managed according to Forest Service Manual direction. Notices of intent and operating plans will be required for all mining activities.

No known geothermal resources are located within the Eagle Cap Wilderness.

Motorized and Mechanical Use

Management Objective

To maintain the wilderness character by regulating the use of motorized and mechanized equipment.

Current Situation

Authorization is required by either the Chief, the Regional Forester or the Forest Supervisor prior to use of motorized/mechanized equipment, depending on the situation. An environmental analysis is conducted for nonemergency uses not otherwise authorized.

The Oregon Department of Fish and Wildlife uses aircraft to stock lakes where stocking by airplane occurred before 1964. Trail building and maintenance constitute the largest planned use of mechanized equipment. Mechanized equipment is also used in fire suppression activities when necessary.

Management Direction

The use of nonmotorized tools and equipment will be emphasized and promoted in all contacts with the permittees and the public, consistent with the intent of the Wilderness Act.

The Forest Supervisor may allow the emergency use of motorized/mechanized equipment for fire suppression, law enforcement pursuit, and emergencies involving health and safety. Other requests for motorized/mechanized equipment require Regional Forester approval.

Motorized/mechanized equipment may be proposed for particular trail projects and fire suppression if accomplishment of objectives is not feasible using primitive methods.

Aerial fish stocking of lakes historically stocked by airplane prior to 1964 will be permitted subject to annual plan approval.

Motorized/mechanized equipment may be permitted for mining activities, if essential, or if its use will result in the least impact on the wilderness resource. These uses will be documented in an approved operating plan.

Scientific Resources

To encourage scientific research projects which are a benefit to wilderness management.

Current Situation

The Wilderness is a popular field laboratory. Research subjects have included fire, ecology, geology, and the impacts of recreationists on various wildernes ecosystems. Current research on soil conditions is being conducted on Big Sheep, Little Sheep, and Cougar Ridges. Recreational impact on water quality is being studied in the Lakes Basin.

Management Direction

Academic and scientific communities will be encouraged to submit research proposals generally related to wilderness management and ecology. Proposals will be considered by the District Ranger with regard to current wilderness research needs, degree of impact on wilderness resources and visitors, and benefits to wilderness management. Research will proceed consistent with FSM 2324.4.

Scientific study of cultural resource sites may be permitted consistent with the direction in FSM 2323.8.

Cultural and Historical Resources

Management Objective

To identify, evaluate, preserve, and protect the historic and prehistoric cultural resources in accordance with State and Federal laws and Forest Service policy.

Current Situation

The Eagle Cap Wilderness contains an abundance of cultural resources including aboriginal lithic scatters and projectile points, cabins, and mines. The Bear Creek Cabin has been nominated to the National Historic Register. Current management policy is to inventory, evaluate, and preserve these resources as outlined in the Wallowa-Whitman National Forest Cultural Resource Management Plan.

Management Direction

Current management strategy will continue as directed by existing laws and policies. Prehistoric sites and artifacts will be inventoried and evaluated by a qualified archaeologist. Historic cabins will be evaluated as to their potential for inclusion in the National Historic Register. Individual plans will be developed for the maintenance and preservation of historic buildings.

Landownership

Management Objective

To preserve the integrity of the Wilderness by acquiring parcels of private inholdings.

Current Situation

There are some 1,472 acres of private land in the Wilderness, including parcels of land at Aneroid Lake, Hawkins Pass, and Marble Point. Parcels along the Minam River are owned by Red's Horse Ranch, Minam Lodge, Merle Hawkins, and Boise Cascade Corporation. A parcel of private land owned by Ed Miller occurs on Catherine Creek.

National Forest and Wilderness boundaries have been signed where maintained system trails cross private land.

Land exchanges have been initiated by private landowners which would improve the landownership pattern.

Management Direction

Management direction is to acquire private land by exchanging or purchasing private inholdings based on landowner proposals.

Appendix C

HELLS CANYON WILDERNESS

MANAGEMENT PLAN

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Appendix C

HELLS CANYON WILDERNESS MANAGEMENT PLAN

INTRODUCTION

The Hells Canyon Wilderness is within the Hells Canyon National Recreation Area (HCNRA) in the northeast corner of Oregon and west central section of Idaho. With the establishment of the National Recreation Area in 1975, 191,143 acres were classified as wilderness. An additional 22,850 acres were included in 1984 through the Oregon Wilderness Act (PL 98-328). This addition includes the Westside Reservoir Face and McGraw Creek Study areas and allows for a nonwilderness corridor for an existing 230 kv powerline. Also included in this addition are 1,106 acres of public lands managed by the Bureau of Land Management. A joint Forest Service and BLM agreement has been prepared which identifies the Forest Service as the lead agency for management of the BLM lands within the Wilderness.

Management direction for the Wilderness comes from the HCNRA Environmental Impact Statement and Comprehensive Management Plan (CMP), Region 6 Wilderness Management Standards, and Forest Service Policy. The CMP sets the tone of the Wilderness Management goals, which are to "preserve the wilderness character of the area while permitting acceptable human use including recreation, research, resource management, and administrative activities." In other words, a primary goal in each management activity will be the preservation and nondegradation of the wilderness resources, particularly solitude.

In April 1982, Alternative C of the CMP was selected as the preferred management direction, and in April 1984 it was finalized and implemented in full. This management plan is in accordance with Alternative C, the provisions of the CMP and R-6 management standards. The Wilderness Recreation Opportunity Spectrum (WROS) will also apply to the wilderness management plan and will be discussed further under the section titled Recreation, Carrying Capacity and Monitoring Plans.

An annual review of this plan by wilderness managers will occur to determine progress and document accomplishments and analyze goals and direction for the coming year.

DESCRIPTION BY RESOURCE

Visual Resources

Management Objective

Scenic beauty is a principal reason for the establishment of the Hells Canyon Wilderness (HCW). Preservation of scenic values is a primary management objective.

Current Situation

Prior to the establishment of the wilderness, galvanized and aluminum metals were used on several of the facilities within the wilderness boundary. Brightly colored metal fence posts and silver-colored metal water troughs have also been used.

Older trails were constructed in such a way as to provide year-round use and less visible impact. Newer reconstruction and relocation have been according to Forest Service specifications and often resulted in seasonal trails with greater visual impacts, partly because construction scars have not yet faded.

Past fire protection practices have left numerous helispot locations designated by white painted rocks.

Other past uses have left their mark in the form of fences, holding pens, phone wire and garbage.

Management Direction

Wilderness facilities will be maintained to enhance wilderness character in accordance with the CMP.

All trail reconstruction and relocation projects will minimize the visual impact on the area. In order to provide year-round use, trails may be located on south slopes with steeper grades, fewer cutbacks, and fewer switchbacks.

Efforts to locate, record and schedule removal of all unnecessary improvements will continue.

Maintenance and reconstruction of water troughs and fence posts should utilize colors, such as green or brown, that blend into the surroundings.

Facilities and Structures

Management Objective

To maintain the integrity of the wilderness by allowing only those structures in existence before wilderness designation which are culturally significant, or necessary for the protection of the wilderness resources or those allowed under Section 4(d) of the Wilderness Act (CMP, p. 49).

Current Direction

As a result of settlement prior to wilderness designation, many cabins, barns, and homesteads are scattered throughout the wilderness, predominantly on the Oregon side. Most are remnants of early mining or homesteading. Their condition varies from ruins to those suitable for habitation.

Evidences of early mining activities remain around Jackley Mountain and Old Timer Ridge in Idaho.

Administrative structures include Dry Diggins Lookout, Horse Heaven cabin and Tryon Ranch. All structures and facilities were in place before the area was designated as wilderness.

The most obvious structures relating to grazing are the holding pens, corrals, water developments, and drift fences. Numerous cabins are used as range improvements under the terms of grazing permits.

Management Direction

(Also see discussion under "Trail Standards, Trailheads and Signs.")

Horse Heaven cabin and Tryon Ranch will be maintained for administrative use. A study will be made to determine the future of Dry Diggins Lookout, in conjunction with the HCNRA Fire Plan, by May 1, 1988.

All other structures will be evaluated in accordance with the CMP to:

a. Determine their cultural and historical significance.

b. Determine if they are necessary for administration of the grazing permit, or

c. Determine necessity for protecting the wilderness resource.

Structures without cultural or historic significance and unnecessary for administration or wilderness protection will be removed.

Where a structure or facility outside the wilderness boundary can serve a grazing operation equally as well as one located within the wilderness boundary, it will be preferred.

Those structures that are determined to be culturally significant will be managed under the direction of a Cultural Resource Management Plan and, if eligible, will be nominated to the National Register of Historic Places.

Administrative and permitted structures will be posted as to their ownership and use to avoid potential occupancy conflicts.

No new roads, powerlines, telephone lines, flow regulating structures, reservoirs, or other improvements will be permitted except as authorized under Section 4(d), 5(a), and 5(b) of the Wilderness Act. Telephone lines will be removed as funding allows if it is determined that they have no significant historical value, or are considered a safety hazard.

With the exception of trails, trail-related signs, and bridges, no administrative structures will be built adjacent to trails, scenic viewpoints, popular peaks, lakes, streams, or other highly visible areas.

In the construction of improvements, native or visually unobtrusive materials will be preferred. Native materials will be selected from areas outside the wilderness or in such a way within the wilderness that no significant visual or resource damage will result.

Periodically, maintenance plans and schedules will be developed for all retained facilities and structures in compliance with the CMP. All new projects will be covered by an environmental analysis.

When a building or major structure is scheduled for removal, a plan will be prepared outlining methods to be used for removal, salvage, and rehabilitation of the site. No plan is necessary for removal of minor or temporary structures such as hitchracks or meat poles.

Cultural and Historic Resources

Management Objective

To actively identify and evaluate the numerous cultural and historic resources as directed by Federal and State laws and Forest Service policy to determine the preservation, protection and enhancement procedures.

Current Situation

The cultural resource overview of the Hells Canyon National Recreation Area, including wilderness, indicates a high probability for the concurrence of both prehistoric and historic sites. Most inventory

work done to date has been project-specific and therefore dealt with the river corridor or adjacent commercial forest zones.

At present there are approximately 150 known sites within the wilderness. Much of the character of Hells Canyon comes from its rich history and prehistory. It shall thus be managed according to the Forest cultural resource management guidelines in order to best preserve these resources.

Management Direction

Prepare a Cultural Resource Management Plan for all cultural resource sites within the wilderness. This plan will be completed in two stages. Stage one will include the Oregon wilderness with a projected completion date of September 30, 1986. This plan will include the following key items:

a. Review of known reference material relevant to historic and prehistoric settlement.

b. A survey design for the inventory and identification of cultural resources.

c. A schedule for location sampling and verifying sites identified during the overview process.

d. Identification of sites that are eligible for the National Register of Historic Places. Consultation with State Historic Preservation Officer, and the Keeper of the National Register.

e. Definition of conditions for managing the resource in consultation with the State Historic Preservation Officer and the National Advisory Council. Establishment of a list of sites to be preserved, enhanced, protected, or consumed.

f. A schedule for completion of the cultural resource inventories as indicated.

Until the Cultural Resource Management Plan is prepared and approved, the following steps will be followed:

a. Continue the current program of initial inventory and resource evaluation for all areas of wilderness with planned USDA Forest Service undertakings. Although major ground-disturbing projects are not anticipated, the effects of grazing, trail construction and clearing, repetitive camping in high use areas, and any other source of potential resource damage must be considered. In advance of any management-selected ground-disturbing activity, the Cultural Resource Management Specialist will be consulted and an inventory conducted.

b. Law enforcement activities, such as on-ground patrol and aerial inspections, will be continued in order to discourage disturbance and/or destruction by vandals or looters.

c. Prior to any activity or action which could result in adverse effect on a cultural item or site, the standard Section 106 compliance process of the Historic Preservation Act of 1966 must be followed.

d. Trailhead and in-field contacts, news releases, brochures, and all other public contact should emphasize the nonrenewable nature of cultural resources.

e. Some existing permits for grazing, outfitters and guides, mining, or other recognized activities may be affecting sensitive cultural resource sites. As these permits are reissued, the standard cultural resource compliance process will be followed where applicable.

   In cases where an existing permit may threaten a cultural resource site, immediate action will be taken to insure resource protection and compliance with Section 106 of the Historic Preservation Act of 1966 (as amended 1980).

f. Work with in-service employees to increase their sensitivity to this resource.

Communications

Management Objective

To provide adequate radio coverage within the Hells Canyon Wilderness to facilitate administration, law enforcement, safety, and effective response to emergencies.

Current Situation

Hells Canyon Wilderness is covered by two systems using four frequencies. First, the north half of the Wallowa-Whitman (W/W) uses one frequency for its routine business and fire (Wallowa-Whitman Channel 2); the south half of the Forest uses another channel (Wallowa-Whitman Channel 1). The W/W Channel 2 is used by all north-half districts and the Fire Zone; remotes located on Lookout Mountain, Somers Point, Heavens Gate and Buckhorn provide communications between the wilderness and base stations at Enterprise and Riggins. Lewiston can communicate on this channel only through Buckhorn. Hat Point and Heavens Gate Lookouts can act as relays or check-in points when staffed. However, there are numerous areas where coverage is incomplete and direct communication between different points in the wilderness is impossible unless they are in line-of-sight.

The second system consists of two frequencies assigned to provide communications necessary for operation of the river management program. It also is capable of handling some wilderness administrative

traffic as long as its primary purpose is not compromised. Channel 1 on this frequency is suitable for local line-of-sight use on communications with Lewiston. Channel 2 will access any one of three repeaters (depending on a tone selection) on Jim Creek Point, Somers Point, and Lookout Mountain. The Lewiston office has remotes on the Lewiston Hill and Jim Creek Point.

The river management repeater system provides ready communications throughout the canyon with fewer dead spots than the Wallowa-Whitman north half system. It provides for communications between widely separated points in the wilderness or base stations and Enterprise and Lewiston. It is available on a limited basis to wilderness administrators equipped with radios having these frequencies during the summer months.

Management Direction

Prepare a communication plan which identifies areas with poor reception and develop solutions to the reception problem.

Use of facilities outside the wilderness and increased power and performance of existing equipment will be considered before installing any equipment within the wilderness.

If installation of radio equipment within the wilderness is determined necessary by an environmental analysis, the following guidance applies:

a. Improvements will be located to avoid occupying or creating a destination point.

b. Sites with rock climbing opportunities will be avoided.

c. Visual impacts of installations will be minimized with respect to visibility, color, size, and configuration.

d. Maintenance will be accomplished with the least possible impact on the wilderness.

Consider the installation of repeaters in key locations outside of the wilderness to provide W/W Channel 2 coverage in winter months when lookouts are down.

Fish and Wildlife

Management Objective

To provide for a natural distribution and number of native species of fish and wildlife in coordination with State management objectives.

Current Situation

Approximately 366 species of birds, fish, amphibians, reptiles, and mammals are identified as inhabitants or transients. A complete list is available at the Forest Supervisor's office and NRA offices.

Several threatened or endangered species, as identified by Federal or State lists, either inhabit or migrate through the area. These include the bald and golden eagles, peregrine falcon, ferruginous hawk, and fisher.

Fire suppression efforts have been moderately successful since the 1930s, resulting in some unnatural buildups of fuel and changes in plant succession that could affect wildlife populations. Most of the wilderness has been grazed or is currently being grazed by domestic livestock. This activity has resulted in some changes in vegetative composition, competition and the introduction of diseases which eliminated the bighorn sheep early in the century.

Hunting pressure, predator control, homesteading, and other human activities have also impacted native wildlife populations.

The appropriate State agencies of Oregon and Idaho deal directly with the wildlife species while the Forest Service is responsible for managing the habitat.

Some exotic species were introduced in the area prior to its designation as wilderness, including chukar partridge, mountain quail and brook trout.

Mountain goats were successfully reintroduced in the Seven Devils portion of the wilderness several years ago. This herd is increasing and provides

limited hunting opportunities. There is some concern that the limited gene pool represented in this herd could threaten its vitality. Proposals are expected to introduce individuals to diversify this pool.

Bighorn sheep have been introduced in the wilderness in both Idaho and Oregon. The Idaho herd grew to a point where limited permit hunting was allowed. However, a disease problem has arisen and herds in both states could be in jeopardy. The disease common in both domestic and bighorn sheep in studies to date is PI 3 or shipping fever. Further studies are planned and management options for both bighorn and domestic sheep will be developed.

The Oregon section of the Hells Canyon Wilderness sustains a large elk herd and a small population of mule and whitetail deer.

Observing wildlife is an important part of most wilderness users' experience. Hunting remains a major attraction for many, especially in Oregon. Protection of the habitat will continue to be a high priority.

The Seven Devils area of Idaho contains all of the lake fisheries. The Seven Devils also receives most of the Hells Canyon Wilderness summer use. Stocking programs carried out by the Idaho Department of Fish and Game have introduced and/or perpetuated rainbow, cutthroat, and brook trout populations. (See Table C-1.)

A 1976 Oregon Department of Fish and Wildlife stream survey of Wallowa County indicated that several miles of potential fish habitat exist within the wilderness. Rainbow and cutthroat trout were the principal species presumed present. Steelhead may be spawning in some Snake River tributaries including Saddle Creek, Sheep Creek and Granite Creek.

Management Direction

Coordination with respective State agencies will continue in order to protect wildlife resources and habitat. When habitat extends outside the wilderness, special considerations as outlined in the CMP will be given to those resources to ensure their stability. Hunting, fishing, and trapping will be permitted under appropriate State laws.

Populations of native animals will be maintained by methods acceptable under the Wilderness Act and current wilderness policy.

Threatened and endangered species will receive additional management emphasis. Mitigation and enhancement measures, as outlined in conjunction with State Fish and Wildlife personnel, will be included in each project analysis where any Federally listed species are affected.

Existing species of naturalized nonindigenous fish will be maintained in lakes and streams. The historical precedent established through successful fish stockings prior to December 1975 can be continued. Where possible, only native cutthroat trout will be stocked. The method of transportation and the general stocking plan will be determined prior to actual releases to ensure that wilderness values will be protected. Lakes barren of fish in December 1975 will not be stocked or supplemented. Table C-1 provides more specific information on the lake stocking program.

No nonnative species of animals or birds will be introduced. Existing populations of non-natives will not be supplemented.

If, for human-related reasons an indigenous species disappears, it may be reestablished. Reintroduced populations of mountain goats and bighorn sheep may be supplemented, following environmental analysis, on a case-by-case basis.

If deemed effective to disperse visitors or avoid overuse of certain lakes, rotation stocking or total curtailment may be considered.

Production and dissemination of fishing guide pamphlets by State agencies or private sources will be discouraged as they may encourage

Table C-1
HELLS CANYON WILDERNESS LAKES

Lake Name	Location S T R	Surface Acres	Existing Species	Stocking Records Species:Year	Future Plans	Aerial Stocking Used
Baldy (Big)	22, 23N, 2W	47	CT, RB	CT60, CT63, CT65 CT66, CT71, CT73 RB76, RB81	CT fry every 3rd year	Yes
Baldy (Little)	22, 23N, 2W	2	CT, RB	CT73, RB76	CT fry every 3rd year	Yes
Basin	11, 23N, 2W	10	CT, RB	CT59, CT62, CT65 CT67, CT71, CT73 CT76, RB81	CT fry every 3rd year	Yes
Bernard (1)	3, 23N, 2W	3	CT, RB	CT59, RB63, RB67 CT71, CT76, RB81	CT fry every 3rd year	Yes
Bernard (2)	4, 23N, 2W	5	RB	RB81	Probably too shallow	Yes
Bernard (3)	4, 23N, 2W	3	CT, RB	CT59, CT63, CT66 RB67, CT71	Probably too shallow	Yes
Cannon (Upper)	24, 23N, 2W	3	CT	CT59, CT62, CT65 CT66, CT73, CT76 CT81	CT fry every 3rd year	Yes
Cannon (Lower)	19, 23N, 1W	7	CT, RB	CT59, CT62, CT65 CT66, RB73, RB76 RB81	RB fry every 3rd year	Yes
Crystal	26, 22N, 2W	18	RB, CT BK	CT74	CT or RB as needed	Yes
Dog	35, 23N, 2W	16	CT, RB	CT62, CT65, RB66 CT73, CT76	CT fry every 3rd year	Yes
Echo	15, 23N, 2W	10	CT, RB	CT59, CT63, CT66 CT67, CT71, CT73 CT76, RB81	CT fry every 3rd year	Yes
Emerald	27, 22N, 2W	45	BK, RB RBxCT	RB74, RBxCT80	RB or CT as needed	Yes
Gem	14, 23N, 2W	12	CT, RB	CT60, CT63, CT66 CT71, CT73, CT76 RB81	CT fry every 3rd year	Yes
Granite (Little)	22, 23N, 2W	3	CT, RB	CT71, CT73, RB76 RB81	RB fry every 3rd year	Yes
Hanson (Lower)	24, 23N, 2W	3	CT, RB RBxCT	RB66, CT73, CT76 RBxCT81	CT fry every 3rd year	Yes
Hanson (Upper)	23, 23N, 2W	3	CT, RB	RB66, CT73, CT76 RBxCT81	CT fry every 3rd year	Yes

Table C-1 (continued)
HELLS CANYON WILDERNESS LAKES

Lake Name	Location S T R	Surface Acres	Existing Species	Stocking Records	Future Plans	Aerial Stocking Used
He Devil	15, 23N, 2W	6	CT, RB	CT59, CT62, CT65 CT71, CT73, CT76 RB81	CT fry every 3rd year	Yes
Haas Lake	3, 22N, 2W	8	CT	CT62, CT65, CT73	CT fry as needed	Yes
Lily Pad	10, 23N, 2W	5	---	Too shallow	---	---
Mirror	13, 23N, 2W	11	CT, RB	CT64, CT69, CT74 CT76, CT81,	CT fry every 3rd year	Yes
Quad	22, 23N, 2W	4	CT RB	CT59, CT63, CT66 CT71, CT73, RB76 RB81	RB fry every 3rd year	Yes
Rock Island	14, 23N, 2W	3	CT, RB	CT60, RB81	CT fry as needed	Yes
Appendix	14, 23N, 2W	2	CT	CT71	Proably too shallow	Yes
Ruth	15, 22N, 2W	15	BK, RB	RB74	None	Yes
Satan	35, 22N, 2W	5	CT RBxCT	CT74, RBxCT81	CT fry as needed	Yes
Sheep	14, 22N, 2W	44	CT, RB	CT60, CT63, CT66 CT71, CT72, CT73 CT76, RB81	CT fry every 3rd year	Yes
Shelf	11, 23N, 2W	9	CT, RB	CT71, CT73, CT76 RB81	CT fry every 3rd year	Yes
Six Basin (1)	33, 22N, 2W	20	RB, CT	RB70, RB72, CT74	RB or CT fry as needed	Yes
Six Basin (2)	32, 22N, 2W	3	CT	CT74	CT fry as needed	Yes
Six Basin (3)	5, 21N, 2W	9	CT, BK	RB74, RB75	RB fry as needed	Yes
Triangle	22, 23N, 2W	8	CT, RB	CT59, CT62, CT65 CT71, CT73, CT76 RB81	CT fry every 3rd year	Yes

RB = Rainbow CT = Cutthroat BK = Brook RBxCT = Hybrid

The above information was provided by the Idaho Fish and Game office in Lewiston and is based on the records available at that office. The records are not always complete, especially for lakes in Adams County. Lakes not listed are assumed to be barren and incapable of supporting.

overuse of some sites and reduce the element of discovery. With cooperation of the State Department of Fish and Wildlife visitors will be provided materials that will help them understand and appreciate wilderness, wildlife, and its habitat.

The Forest ecologist will identify biologically unique habitats and communities and recommend protective measures as they are encountered in ongoing studies.

The Forest Service will work with the respective State game managers to search for a satisfactory solution to the bighorn disease problem.

Fire — Natural and Prescribed

Management Objective

Allow fire to assume its natural role in the wilderness ecosystem while not affecting adjacent nonwilderness values, life, and property.

Current Situation

All wildfires on National Forest System lands are either contained, confined, or controlled according to National Forest Service Policy. The CMP calls for the completion of "A Fire Management Action Plan that will permit fire, caused by natural forces, to gradually play a more important role in Hells Canyon." This plan (Hells Canyon Wilderness Fire Management Area Plan) has been completed and approved for implementation by the Regional Forester.

Management Direction

Implement Fire Plan direction.

Forage Allocations

Domestic livestock allotment plans will emphasize rapid recovery of range land to a satisfactory condition and compliance with those priorities of range allocations found on Page 20 of the CMP.

Management Objective

To allow the continued use of the grazing resource, as stated in Section 4(d)4 of the Wilderness Act to a level based on the condition of the range resource and to prevent deterioration of other resource values.

Current Situation

There are 16 permitted cattle and sheep allotments either partially or totally within the wilderness. Starting in the late 1800's, yearlong use and overgrazing altered the range severely. However, improved management techniques have recently resulted in good recovery in most areas.

Parts of the Hells Canyon Wilderness are heavily used by equestrians. Approximately 63 percent of the Oregon-side wilderness visitors use pack and saddle stock. Hunting season brings an especially large number of horse parties. With this use comes the potential for locally heavy impacts on the forage resource, vegetative damage in holding areas, and introduction of nonnative vegetation.

Multiple trails have developed along some stock driveways, affecting the vegetative, soil, and visual resources.

Management Direction

Through educational efforts, pack and saddle recreationists will be encouraged to carry and use supplemental feed when entering areas identified as having poor forage. Unprocessed feeds or those containing viable seeds will be discouraged in order to reduce the possibility of introducing non-native species into the plant communities.

Areas containing threatened or endangered plant species will be designated on a map and copies circulated to interested persons. Entry, by both commercial and noncommercial livestock, will be discouraged. If a cattle or sheep allotment management plan is affected by the presence of a threatened or endangered species, the grazing plan will contain the necessary precautions.

Individual allotment management plans will be developed or revised which minimize resource damage and conflicts with recreation, wildlife, and other wilderness values. Prescriptions will specifically encourage natural plant community succession and recommend rehabilitation of deteriorated range. Within funding limitations, allotments will be closely and consistently monitored for compliance with the terms of management plans.

Highly popular recreational sites may be closed to grazing by recreational stock if damage is occurring and educational efforts fail. Recreational grazing, if allowed in these areas, will be managed under a nondegradation concept. Sensitive riparian zones such as lakeshores and adjacent terrain and wet meadows will be identified in the allotment plans and prescriptions will be developed to maintain or enhance them. Range improvements will be justified in allotment plans or by separate environmental analyses.

Efforts will be made to inform visitors of range activities and the compatibility of grazing with the NRA legislative direction.

Stock driveways will be managed so as to minimize soil movement and permanent loss of vegetation.

Predators

Management Objective

To allow predators to continue to play a natural role in the wilderness environment.

Current Situation

Numerous predator species inhabit the area, some of which collectively or singularly may prey on domestic livestock as well as natural food sources. Coyote, black bear, golden eagle, and cougar are the primary species.

Management Direction

Predacious animals and birds are an important part of natural life systems in the wilderness. They play an important role in the natural selection and survival process. Control of predators may be necessary on a case-by-case basis where serious loss of domestic stock occurs, or threatened and endangered species need protection. When this control is necessary it will be accomplished by methods which are directed at eliminating only the offending individual(s), and at the same time, protecting other wilderness resources. The Regional Forester approves predator-control programs on a case-by-case basis justified by a site specific environmental analysis. State laws apply and regulate the taking of predators.

Motorized Vehicles and Equipment

Management Objective

To maintain the wilderness character by minimizing the use of motorized and power equipment.

Current Situation

Authorization is required by either the Chief, the Regional Forester or the Forest Supervisor prior to use of motorized equipment, depending on the situation.

An environmental analysis is conducted for nonemergency uses not otherwise authorized. Occasional violations of the motorized equipment regulations

are encountered, and where evidence is adequate, the violators are prosecuted. Aircraft are used by the Idaho Fish and Game Department for stocking lakes where this practice was established prior to wilderness classification.

Management Direction

Emphasize and promote the use of nonmotorized tools and equipment in all contacts with permittees and the public. Demonstrate the skills and effective use of this equipment in administrative work such as trail maintenance.

The Forest Supervisor may allow the emergency use of motorized/mechanical equipment for fire suppression, law enforcement pursuit, and emergencies involving health and safety. Other requests for motorized/mechanical equipment require Regional Forester approval.

Motorized/mechanized equipment may be proposed for particular trail projects and fire suppression if accomplishment of objectives is not feasible using primitive methods.

Aerial fish stocking will be permitted subject to an annual plan approval. See Lakes Information Chart (Table C-1) for a list of lakes where aerial stocking may be approved.

Motorized/mechanized equipment may be permitted for mining activities, if essential, or if its use will result in the least impact on the wilderness resource, and the claim was valid prior to December 31, 1975. These uses will be documented in an approved operating plan.

Educational and law enforcement efforts will continue in areas adjacent to the wilderness where entry is possible and within the wilderness itself.

Minerals and Geothermal Energy

Management Objective

To manage all claims which were in existence prior to December 31, 1975 in such a manner as to provide reasonable protection of the wilderness resource.

Current Situation

During the late 1800s extensive mining activity occurred near Jackley Mountain and the Seven Devils Mountains. Claims in existence prior to December 31, 1975 are exempt from the mineral withdrawal. New mineral entry is prohibited by PL 94-199. There are 36 acres of patented

mining claims within the wilderness; the BLM lists fewer than 10 unpatented claims, none of which have had validity examinations. No claims are currently in production and activity is confined to annual assessment work.

No known geothermal resources are located within the Wilderness. Leasing and development are specifically prohibited.

Management Direction

Regulations for mining in the wilderness will be applied to minimize both temporary and permanent physical and aesthetic impacts on the wilderness resources. Validity of unpatented claims will be assured before any operating plan requiring significant disturbance is approved.

The procedural requirements and intent of the National Environmental Policy Act of 1969 will be followed in evaluating all requests for rights-of-way, tailing dumps, mill and townsites, or other related land uses.

Periodic field examinations will monitor activity and possible resource damage.

Outfitters and Guides

Management Objective

To provide high quality outfitter and guide services as necessary to meet public needs while protecting the wilderness resource.

Current Situation

The State of Idaho has an active Outfitter and Guide Licensing Board which sets standards and licenses outfitters and guides. Oregon does not currently have a similar licensing requirement, although it does have a registration program. The Forest Service requires a special use permit for outfitter-guides operating on National Forest land.

There is a wide range of services available on a yearlong basis, including hunting and scenic tours with almost limitless combinations of mode of travel, destinations, and durations.

Numerous applications are received each year and considered on the basis of carrying capacity, available space, the resources and need, and in accordance with the CMP, Outfitter-Guide Operating Plan and the Wilderness Act 4(d)5.

Annual meetings with each outfitter and guide are conducted to establish their operating plans. Field inspections are made periodically during heavy use periods.

Traditionally, outfitter-guide services have been available throughout the Hells Canyon Wilderness. In past years, the Oregon portion has supported an average of seven outfitter-guide permits, all of which were stock-oriented, while the Idaho portion has had only one stock-oriented permit, but three backpacking permits. Presently, Oregon has a total of eight permits, all being stock-oriented. Of these eight, six are filled and two are vacant. Idaho still has only one active stock-oriented permit and three backpacking permits. Present day management recognizes the potential for additional outfitter-guide services. Activities to be considered include animal packing, horsepacking trips, horse rental, backpacking, and mountain climbing.

Animal packing includes transportation to and from assigned camps which can be a drop or set-up situation, and may or may not provide a guide and/or cook.

During hunting season, especially in Oregon, there is a heavy concentration of animal packing activities. With the increase in elk numbers, Idaho may also expect greater pressure from animal packing activity.

Horsepacking trips can either consist of day rides, or trips of a progressive nature where no specific campsites are assigned. However, the length of time camped at any one site may be restricted. This activity is usually heaviest during spring and summer.

Horse rental is permitted in connection with permits already established.

Backpacking activity in the Idaho portion is on a progressive schedule, with no assigned camps, although heavy use areas may be excluded from possible camping. Spring and summer are the most popular seasons.

The potential exists for mountain climbing activities, especially on the Idaho side, but to date there have been no applicants. If permits are issued, they will be of a progressive nature with no specific camps assigned.

Presently, the Wilderness has room for expansion in all of the above activities.

Management Direction

In keeping with historical records, limits of acceptable change (LAC), present use trends, and direction stated in Title 2700, the Wilderness Act, and the CMP, the following capacities have been established in an effort to meet the public demand and protect the wilderness resources:

ACTIVITY	PERMITTED NUMBER	TYPE	STATE
Animal Packer*	7	Tenure	Oregon
	3	Annual	Oregon
	2	Tenure	Idaho
	1	Annual	Idaho
Horsepacking Trips (Can include packers above)	10	Progressive	Oregon
	2	Progressive	Idaho
Horse Rental	These will be in connection with established permits.		
Backpacking	3	Annual and/or tenure	Oregon
	4	Annual and/or tenure	Idaho
Mountain Climbing	1	Annual and/or tenure	Oregon
	2	Annual and/or tenure	Idaho

Wilderness resource conditions will be monitored in accordance with the guidelines and direction outlined in the Title 2700, WROS standards, and limits of acceptable change.

Where wilderness values are jeopardized by recreational use, such use will be redirected, regulated, or excluded.

If conflicts of interest or resource damage occur among the general public, outfitter-guides, special use or range permits, historical resources, wildlife, fire or other wilderness resources, appropriate action by distribution of use, education or approved management direction on permitted uses will be taken.

In conjunction with representatives of the Oregon Guides and Packers, Idaho Outfitter-Guide Association, Eastern Oregon Outfitter-Guides, and the Idaho Outfitter-Guide licensing board, develop alternatives for allocations of business opportunities in balance with public need and wilderness management standards.

Continue annual operating plan meetings and periodic field inspections.

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*The annual permits under this activity will be on a short, special term basis and not necessarily considered for tenure status.

Trailhead and assigned permitted camps will be located to help distribute use outside and adjacent to the wilderness boundary. Managers will strive to provide continuity in all camps and in compliance with the CMP.

Recreation, Carrying Capacity and Monitoring Plans

Management Objective

To provide the wilderness user a wide range of opportunities including primitive experience, solitude, and unconfined recreation with a minimum amount of regulations.

Current Situation

The area offers a long season of use with a diverse range of activities. Winters are milder at lower elevations. Early inhabitants recognized this and through thousands of years left signs of habitation throughout the Snake River Canyon. Some of the same attributes that led early settlers to the area attract modern recreationists.

The Oregon side of the Wilderness receives its heaviest use in the spring and fall. Summer use is limited by extreme temperatures and lack of water. Backpackers are discovering the canyon face, but are outnumbered by people with pack and saddle stock. This area, with its abundance of grass, is well suited to stock. Since water and flat ground suitable for camping are scarce, good campsites tend to be limited and spread out. The dispersed use and long season tend to moderate the impacts at campsites. However, rather than overuse, the wilderness tends to suffer from abuse of sites, such as chopping away vegetation and tying horses to trees. Visitor education is being emphasized to better protect resources since the terrain and environmental factors of Hells Canyon Wilderness help distribute use. Most of the wilderness has been classified as primitive-trailed in the WROS (Wilderness Recreation Opportunity Spectrum System). Exceptions to this classification occur during heavy spring and fall use in Saddle Creek drainage, Temperance Creek and the area directly below Hat Point. A map demonstrating the WROS classification is available. WROS descriptions and standards are in Forest Plan Table 4-2. A campsite inventory incorporating the limits of acceptable change (LAC) and WROS concepts has begun on the Oregon side.

Most recreational use of the Idaho segment of the Wilderness occurs during a relatively short summer season (three months) in the fragile high elevations. Much of the activity centers around the high elevation lakes in the Seven Devils. This results in a limited grazing season which can result in damage by stock. Backpackers generally outnumber those recreationists using pack and saddle stock, although both use the area.

Most of the Idaho portion of the Wilderness has been classified in the WROS as primitive trailed. However, some trail corridors and lake basins are semiprimitive.

Generally, the lakes basin area of the Seven Devils is within recognized WROS standards for the physical and biological objectives. However, some portions of lakeshores show evidence of over-use and need protection and rehabilitation.

The remaining primitive trailed areas display evidence of excessive use at a few widely dispersed, favorite campsites.

Because of the numerous trails, none of the Wilderness meets the Regional definition for primitive trailless.

Management Direction

Continue a campsite inventory and evaluation program in respect to the carrying capacity, LAC, WROS, and wilderness needs and policy.

The following situation exists for WROS classification:

Semiprimitive Trailed. The physical, biological, and social objectives are clearly stated in the WROS Standards (Forest Plan Table 4-2) and will be followed. Each will be monitored annually in order to establish base line conditions and trends. Monitoring will occur at selected lakes and other traditional high use areas within the Seven Devils. Once trends have been established, monitoring frequency can be lessened.

Restoration and management plans will be developed for each heavily impacted site.

Primitive Trailed. Since use levels within the primitive-trailed WROS class are low, a few parties larger than the normal for this class are not likely to have significant impact. Consequently, party size will be restricted to eight people and 16 head of stock. Exceptions for groups up to a combined total of 30 people and animals may be approved by the HCNRA Manager. This use will be monitored to assure compatibility with objectives for the area.

Monitoring of traditional campsites will occur annually, until baseline condition and trend are established. Rehabilitation and management plans will be developed for each heavily impacted site.

In both WROS zones, various management techniques are applicable. As monitoring data are gathered and analyzed, the appropriate management approach can be taken to correct unsatisfactory situations.

Indirect approaches:

Education

a. Design public information programs (public service media messages, portal notices, personal contact) to inform the public what to look for in a campsite and the characteristics of sites to avoid. Emphasize no-trace camping; de-emphasize feature attractions of the wilderness. Distribute use by encouraging visitation of some areas while discouraging use in others.

b. Continue off-season contacts at service and recreation organizations, schools, colleges, and universities, as needed.

c. Continue user contacts both in the field and through wilderness information specialists as needed.

d. Post site restoration messages at portals and at over-used sites. Suggest alternative camping locations (by characteristic, not specific location) on the portal notice. Convey, in a positive way, the need and rationale for the public to avoid using degraded campsites or creating newly degraded sites and to disperse their use to improve solitude.

Rehabilitation

a. Physically, make overused sites less appealing/less accessible. Remove fire rings and other evidence of human presence.

b. Identify and revegetate overused sites with locally obtained transplants of native species.

c. Limit access to certain areas by closing trails, removing conveniences, or limiting maintenance.

Direct Approaches

Permit Systems

a. A self-issuing registration system may be used as an information gathering tool.

b. A mandatory permit system with access to certain areas limited may be used, if necessary.

c. Checks for compliance with registration or permit system, when necessary.

d. Law enforcement will occur where needed and as funding allows.

Occupancy Restrictions

a. A lakeshore or site-specific closure to all camping and grazing of livestock may be considered where physically possible.

b. Grazing closures in designated areas may be considered, along with requirements that feed for park and saddle stock be carried.

Trail Standards, Trailheads and Signing

Management Objective

To provide a range of challenges to wilderness users; to minimize physical and visual impacts upon the land; to reduce conflicts between users and concentrations of use which degrade the wilderness resource; to provide only those signs which are necessary for the protection of the wilderness resource, or necessary for visitor protection and orientation (CMP, p. 46).

Current Situation

Trails in the Wilderness evolved from old Indian travel routes, big-game animal migration trails, and later by the need to gain access to remote areas for grazing, mining, and fire control purposes.

The system is a network traversing every major drainage, following the long, broad ridge tops and contouring the midslope bench areas. Numerous minor trails interconnect with major routes forming a variety of loop possibilities.

There are several unneccessary trails and signs that do not meet management objectives. Numerous standards and materials have been used and their condition varies greatly. The wilderness boundary is now signed and maintained at all major entry points, except for the area added by the 1984 Oregon Wilderness Act.

An inventory of signing needs has been completed. Rock cairns of native materials have been erected at most major trail junctions (on the Oregon side) where grassy vegetation makes signing difficult. The signing of the trail system has been completed as described in the Sign Handbook and the CMP, page 46.

Trailhead facilities at Warnock Corral, Hat Point, and Windy Saddle have been improved to include loading ramps, bulletin boards, parking and turn arounds. Freezeout Saddle, Dug Bar, and Upper Pittsburg are in the planning stage and will be developed as funding is available.

Management Direction

Trail management will be based on user safety, resource protection, and preserving wilderness integrity.

Trail structures will be limited to those necessary to provide safety to the user and to protect the wilderness resource. A site that requires a structure will be avoided if a logical relocation of the trail can be made. Native materials, used for the construction of bridges, turnpikes, puncheons, etc., will be selected carefully out of sight of existing trails. Where a large amount of material is needed, it will be selected over a wide area to reduce visual impact or transported to the site from outside the wilderness.

All improvements will be constructed from native material or other material compatible with wilderness setting.

Trails in areas where hunting is an important use will be constructed to hold up under horse traffic during wet and icy weather.

Trails will be constructed and maintained so they appear to be a part of the wilderness rather than an intrusion upon it. This can be achieved by eliminating long tangents, using undulating grades and winding through the topography.

Primary trails will bypass heavily used areas and focal points as much as possible. These areas will be designated in the campsite inventory and should be served by spur trails.

Signing will be brought in line with FSM direction and R-6 wilderness sign standards. Signs may be placed on trees, rocks, or native wood posts, depending on the situation. The wilderness addition boundary signing is scheduled for completion in 1986.

A trail inventory has been completed and will be maintained. System trails will include hiker and pack-and-saddle trails of all difficulty levels. Trails will be maintained to standard specifications and in compliance with the CMP.

Open-top wooden and metal trail culverts will be replaced with natural materials as they deterioriate.

Trailheads will be updated and improved as funding allows. Where additional facilities are determined to be consistent with wilderness capacities they will be designed, constructed, and maintained with regard to usable area, cost effectiveness, visitor needs, and maintenance considerations. Substandard facilities will be removed as new ones are installed.

Trailheads where improvement and/or expansion is appropriate include:

Idaho	Oregon
Deep Creek/High Dive	Dug Bar
Black Lake	Freezeout Saddle
Windy Saddle	Warnock Corrals
Cold Springs	Hat Point
Pittsburg	
Low Saddle	
Heavens Gate	

Other trailheads may be considered.

Except at trailheads, mileage to destination points will generally be limited to one destination in each direction.

Motorized equipment prohibitions will be posted at points where motorized entry is possible.

The pre-attack fire planning signs will be removed.

The need for signs will be minimized by developing accurate maps and brochures which will include up-to-date descriptions of management expectations for appropriate visitor behavior and activity.

All signs will be maintained on a regular basis.

Scheduling of trail reconstruction will be consistent with the implementation plan for the CMP.

Subject to funding, the following trails will be reconstructed by 1990:

Battle Creek (Tr. 1984)
Temperance Creek (Tr. 1778)
Baldy Lake (Tr. 69)

Vegetation, Riparian Zones and Noxious Weeds

Management Objective

To maintain the native vegetation with special emphasis on the preservation of threatened or endangered species, research natural areas, and riparian zones.

Current Situation

Present vegetative conditions have developed as a result of elevation, aspect, soil depth, and composition. Farming, grazing, the introduction of exotic plants, and the suppression of fires have also

affected the flora. As a result of homesteading which occurred throughout the area, numerous non-native trees, shrubs, and grasses persist. Some have a potential for detracting from the wilderness environment. At the mouth of Saddle Creek, for example, the exotic pampas grass could spread. Medusahead wildrye, white top, yellowstar thistle, and scotch thistle are among the potential problem plants.

Recreationists have modified the native vegetation at and near traditional campsites.

In general terms, the Idaho portion of the Wilderness is characterized by three geologic-vegetative regions:

a. Upper elevations (7,000 ft.) with alpine and subalpine types near glacial lakes and rock formations.

b. Middle elevations (6,000 ft.) with a continuous coniferous cover of larch, lodgepole pine, and true firs.

c. Lower elevations (1,500 + ft.) with a bunchgrass association and cheatgrass the primary invader.

Oregon displays a different distribution of land and vegetative types:

a. Steep Upper Breaks which are similar to the middle elevations of the Idaho portion of the Wilderness.

b. Mid-elevation Bench dominated by scattered ponderosa pine and mixed conifers in the draws and north slopes, and shrub bunchgrasses on the drier sites.

c. Steep Lower Breaks which are generally rocky and dominated by bunchgrasses.

Throughout most of the lower and middle zones riparian vegetation occurs along live streams. Hackberry, alder, cottonwood, and mixed conifers dominate the overstory with mixed shrub bunchgrass forming the understory.

Portions of the Saddle Creek drainage, where the Freezeout Fire of 1973 occurred, contain a concentration of both standing and down dead lodgepole and ponderosa pine, grand fir and Douglas-fir. Fuelwood is generally plentiful at all mid- and upper elevations in Oregon. Idaho areas have plentiful fuelwood only at the mid-levels. Some high use areas in the Seven Devils are nearly devoid of fuelwood.

Management Direction

Special emphasis will be placed on preserving the identified threatened or endangered plants and those on the Regional Forester's sensitive list. When applicable, all management plans and projects will

incorporate the legal, biological and habitat requirements of each plant to ensure their continued existence.

Only dead and down materials will be used for fuelwood. Campfires may be prohibited in certain vegetative types or heavy use areas.

Cutting of green trees or boughs for beds, shelters, or any other use is prohibited.

No exotic species will be perpetuated. Certain exotics such as tansy ragwort, yellowstar thistle and medusahead wildrye may be actively eradicated.

Field-going employees will be trained to identify noxious plants, and instructed to mark the sites for further reference and monitoring. Noxious plant samples may be removed for further identification.

Exotic and/or noxious plants that threaten the wilderness resource, research natural areas (RNA's) or lands outside the wilderness will be controlled to the extent practical and compatible with wilderness values and policy.

Cooperation with State, Federal and private organizations will continue with emphasis placed on educational efforts.

Field-going employees shall be made aware of potential and existing research natural areas and the management prescriptions to protect the values for which they were established.

Riparian zones identified in research natural areas will receive special management considerations as outlined in the CMP. Other riparian vegetation will be given appropriate protection in grazing plans and recreation management objectives.

Appendix D

LANDOWNERSHIP PLAN

Modifications will be made to the National Forest landownership pattern that will accomplish the objectives of this Forest Land and Resource Management Plan. Opportunities for improving the pattern will come through land exchanges, purchases, donations, and transfers with other agencies.

The President's Asset Management Program may influence the Forest's landownership pattern if it is consummated. The asset program is a National effort to identify some National Forest lands for study to determine if they should be considered for disposal by sale. This action will require new legislation so it is anticipated several years of effort will be needed before the program can be implemented.

The landownership objective is:

> To achieve the landownership pattern that best accommodates the land and resource direction in this plan.

The public and private lands within and surrounding the Forest have been classified and prioritized for acquisition or exchange with the intent of eventually achieving the optimum landownership pattern. All lands have been placed in one of the following groups.

Group I These are lands where Congress has either directly or indirectly instructed the Forest Service to retain ownership and acquire non-Federal lands for a designated purpose. The objective for Group I lands is to retain existing ownership and acquire the remaining lands as implied by Congressional direction. Acquisition of less than fee title will be considered if direction and land management objectives can be met.

Group II These lands have been recognized for a special kind of management and are allocated to meet specific purposes. They include Special Interest Areas and areas allocated to range, fish and wildlife, visual, watershed, soils, and timber values. Landownership direction is to retain National Forest ownership and acquire private lands as the opportunity or need occurs. The basic criteria for Group II lands is special management to meet a special public need. Acquisition of less than fee title will be considered if direction and land management objectives can be met.

Group III Lands in this group are in the areas where management direction emphasizes commodity production. These lands will be available for land adjustment and usually will provide most of the land considered in exchange projects. Areas of mixed private and Federal ownership are included with the objective of rearranging ownership patterns to benefit commodity production goals for both ownerships. Also included are some isolated parcels that can best be managed by the Forest Service or some other public

agency. The assumption for lands in this group is that they will be managed to provide similar types of outputs whether in private or public ownership. Normally, solid National Forest ownership will not be available for land exchange, therefore, the following table does not include these areas.

Group IV These are lands which include small isolated tracts of National Forest that are costly to administer and contain no special resource features. The landownership direction is to generally make these lands available to exchange for private lands in Groups I, II, or III.

Group V These are lands which need more intensive study and planning before landownership decisions can be made. Land acquisition and disposal decisions will be deferred until the needed studies have been completed.

Acreages within each group are summarized in Table D-1

Land Adjustment Priorities

Lands which should be considered for acquisition to meet essential National Forest Management needs are assigned the following priorities:

Priority 1 - Group I lands
Priority 2 - Group II lands
Priority 3 - Group III lands

National Forest lands available for use in exchange for private lands are assigned the following priorities:

Priority 1 - Group IV lands
Priority 2 - Group III lands

A detailed map showing the lands available for ownership adjustment is available for review at the Forest Supervisor's Office.

Table D-1
LANDOWNERSHIP PLANNING ACREAGES BY
MANAGEMENT AREA AND OWNERSHIP*

Management Strategy	LOP Group	National Forest	Private	Totals
1	III	654,395	28,480	682,857
	IV	1,960	-	1,960
3	III	460,747	18,950	479,697
	IV	4,190	-	4,190
4	I	582,700	2,100	584,800
5	II	4,967	-	4,967
6	II	110,924	2,060	112,984
7	V	6,283	40	6,323
8	I	14,355	110	14,465
9	I	161,078	1,120	162,198
10	I	128,009	21,280	149,289
11	I	74,886	1,740	76,626
12	II	1,200	-	1,200
13	V	5,733	-	5,733
14	II	27,051	320	27,371
15	III	38,196	130	38,326
16	II	5,744	-	5,744
17	II	6,594	-	6,594
18	II	60,223	200	60,423

*Acreages are provided to illustrate the magnitude of the program. Figures are approximate and subject to annual change.

Appendix E

TEN-YEAR TIMBER SALE ACTION PLAN

Introduction

This appendix displays how the timber outputs, as projected by the preferred alternative in the DEIS, are likely to be provided during the first ten years of plan implementation. It also identifies the earned harvest factor (EHF) which will be used to adjust harvest levels if, due to lack of funding or for other reasons, the level of precommercial thinning required by the plan cannot be accomplished.

The Timber Sale Program Quantity is divided into two sections -- regulated and unregulated timber volume. The regulated timber volume (the allowable sale quantity) is that portion for which the Forest will be held accountable to offer for sale during the planning period. This amount has been distributed to the Ranger Districts and the Hells Canyon National Recreation Area. In general, it is the volume from sound green trees that can be sawn into lumber.

In addition to the regulated volume, there is often a market for down logs (culls), dead trees, or small size material that may be sold with the regulated timber or by separate sale. This material may be processed into chips, poles or other products. Fuelwood is included in the unregulated volume.

Table E-1 lists the timber sales currently planned during the first five years of plan implementation. This list may be updated during plan implementation, with corrected lists being available at the National Forest Headquarters and at District offices. Included in the map packet is a map which shows the approximate locations of the timber sales, keyed to the sale identification numbers.

Table E-2 illustrates the total timber harvest for the ten-year period.

Table E-3 describes the regulated volume, distributed to Ranger Districts for the first five years.

Table E-4 illustrates the unregulated volumes. The District Rangers are not required to sell these amounts. The figures are their best estimates of what will be sold under presumed market conditions. If the markets for the material improve, the amount of material to be sold may increase -- and if markets are not available, the amounts shown may not be achieved.

An estimate of the amount of various vegetative management practices likely to occur in the first decade is shown in Table E-5.

The volume estimates in the tables are presented in both board feet (Scribner Decimal C) and cubic feet. The conversion ratios used for these displays are based on trees 5-inch dbh to 4-inch dbh top for lodgepole pine and 9-inch dbh to 6-inch top for other species. This complicates

Table E-1
FIVE YEAR TIMBER SALE ACTION PLAN

Fiscal Year 1987

Sale No.	Sale Name	Mgt Area	Legal Description	Area (Acres)	Volume (MMBF)	Road Miles C	Road Miles R	Comments
Baker District								
87011	Gold Ibex	18	T.9S., R.36E., S. 4, 5, 8, 9, 16, 17	1,293	12.6	8.4	1.4	Mixture of shelterwood & overwood removal
87012	North Wind	1,6	T.9S., R.37E., S. 2, 3, 4, 5, 7, 8	823	10.0	8.0	7.3	50% skyline, mostly clearcuts
8701-	Salv & Misc Small Sales	1	District-wide	1,055	5.4	-	-	Mixture of wood residue, post & poles & fuelwood
8701-	Fuelwood Sales	1	District-wide		7.0			Personal use charge fuelwood
87013	Pole Creek Resell	1	T.9S, R.37E., S. 9, 10, 15, 16, 21	400	3.3			2.7 MMBF skyline, mostly overwood removal. Resell of Pole Creek T.S.
	Subtotal			3,571	38.3			
Wallowa Valley District								
87021	Hen	1,3	T.3N., R.44E.	250	2.2			Final removal harvest
87022	Sumac	1,3	T.3N., R.45E. & 46E.	1,550	6.5	6.0	29.7	Overwood removal, mostly ponderosa pine
87023	Bearpaw	1	T.4N., R 46E.	750	6.3	4.2	19.8	Heavy volumes per acre; overmature timber.
87024	Makin	1	T.3N., R.47E. & 48 E.	600	3.1		5.0	Final removal harvest
87025	Lone Spring	1,3	T.4N., R.46E.	860	4.0		2.0	Final removal harvest
87026	Grande Ronde	1	T.4N., R.41E., T.5N.,R.41E.	242	2.2		2.0	Final removal of large sawtimber
8702-	S & MSS	1	District-wide	2,000	10.7			Mixture of mortality salvage & post & pole sales
8702-	Fuelwood	1	District-wide		2.5			Personal use charge fuelwood sales
87027	Swamp Cr. Resell	1,3	T.2N.,R.44E. & 45E., T.3N., R.44E. & 45E.	1,730	10.1			Resell of Swamp Creek Helicopter Sale
	Subtotal			7,982	47.6			
HCNRA								
87041	Bluebird	11	T.4 & 5N., R.47E.	2,000	7.0	8.4	9.0	60% tractor 40% S/L - selection harvest
87042	Sixty-six	11,3	T.5S., R.46E., S. 35,36	400	1.0			All tractor - selection harvest
8704-	S & MSS	11	District-wide	100	0.5			Mixture of small mortality salvage and pole sales
8704-	Fuelwood	11	District-wide		1.0			Personal use charge fuelwood
87043	Cold Grave Resell	11	T.5S.,R.46E., & 47E., T.6S.,R.47E.	2,100	7.2			Resell of Cold Grave Timber Sale
	Subtotal			4,600	16.7			

Table E-1 (Continued)
FIVE YEAR TIMBER SALE ACTION PLAN

Fiscal Year 1987

Sale No.	Sale Name	Mgt Area	Legal Description	Area (Acres)	Volume (MMBF)	Road Miles C	Road Miles R	Comments
Eagle Cap District								
87051	Big Canyon	1,3	T.1S.,R.41 & 42E.	1,180	5.2	4.0	10.5	30% skyline; mixture of regen & overwood removal
8705-	S & MSS	1	District-wide	200	0.5			Mortality salvage & post & pole sales
8705-	Fuelwood	1	District-wide	____	0.5			Personal use charge fuelwood
	Subtotal			1,380	6.2			
La Grande District								
87061	PA	3	T.5S.,R.34E.,S. 11	1,231	4.0	0.7	5.9	Combination of shelterwood & final removal
87062	Collie LP	1	T.6S.,R.35E.,S. 8	58	0.8			Lodgepole pine salvage sale
87063	Camp Creek	1,6	T.2S.,R.41E.,S. 17, 18 29, 30	969	13.9	16.0	3.8	5.4 MMBF skyline; mostly shelterwood
87064	Speck LP	3	T.5S.,R.35E.,S. 11	280	2.5			Lodgepole pine salvage sale
87065	Brook LP	1,3	T.6S.,R.36E.,S. 6	62	0.6			Lodgepole pine salvage sale
87066	Hotel LP	1	T.3S.,R.33E.,S. 22	120	2.0			Lodgepole pine salvage sale
87067	HFR 87	1,3	District-wide	1,000	2.7			Final removal harvest-District-wide
87068	7-11 LPP	1,3	T.6S.,R.36E.,S. 17	52	1.3			Lodgepole pine salvage sale
87069	Fly Ridge	3	T.5S.,R.35E.,S. 11	1,800	9.5	10.0	33.5	6.6 MMBF skyline; shelterwood & final removal
870610	Hoodoo LP	3	T.5S.,R.37E.,S. 8	286	4.6	1.9	1.9	Lodgepole pine salvage; La Grande City Watershed
870611	PSC LP	3	T.5S.,R.37E.,S. 22	637	8.1	8.9	3.5	Lodgepole pine salvage; La Grande City Watershed
870612	Fiddler	3	T.1S.,R.38E.,S. 30, 33	432	10.6	7.5		Mostly regeneration harvest cut
8706_	S & MSS	1,3	District-wide	750	5.4			Mortality salvage; pole & firewood sales
8706_	Fuelwood	1,3	District-wide	____	6.0			Personal use charge fuelwood
	Subtotal			7,677	74.0			
Pine District								
87071	North Boulder	1	T.6S. & 7S.,R.45E.	893	6.0	8.0		Mostly shelterwood- 4.1 skyline
87072	Panter	1	T.6S. & 7S.,R.45E.	650	4.0	7.0		Mostly shelterwood-3.0 tractor, 1.0 skyline
87073	Torch	1	T.7S.,R.43E.,S.2, 3, 9-11, 14-16	450	1.6	2.0	3.5	Seed tree cuts, tractor
87074	Cow Camp	1	T.7S.,R.45E.	830	2.0		2.0	1.0 cable, shelterwood
87075	Bennet	1,3	T.6S.,R.43E.	478	1.5		2.0	1.0 cable, overwood removal
8707_	S & MSS	1,3	District-wide	1,100	1.3			Mortality salvage, poles & commercial fuelwood
8707_	Fuelwood	1,3	District-wide	____	1.0			Personal use charge fuelwood
	Subtotal			4,401	17.4			

Table E-1 (Continued)
FIVE YEAR TIMBER SALE ACTION PLAN

Fiscal Year 1987

Sale No.	Sale Name	Mgt Area	Legal Description	Area (Acres)	Volume (MMBF)	Road Miles C	Road Miles R	Comments
Unity District								
87091	Hole	1	T.14S. & 15S., R.36E. & 37E.	1,300	3.5	1.5	1.0	2.5 MMBF cable; mostly regeneration harvest
87092	Bear	1	T.13S. & 14 S., R.35-1/2E.	1,900	4.0		6.0	2.0 MMBF cable; mostly regeneration harvest
87093	Pix LPP	1	T.10S.,R35-1/2E.	150	0.5			Lodgepole pine regeneration harvest
87094	Orion	1	T.14S.,R.36E.	350	2.0			Mostly regeneration harvest
87095	Mosquito	1,3	T.11S.,R.36E.	100	0.2			Lodgepole regeneration harvest
87096	Water Truck	1	T.12S.,R.35-1/2E. & 36E.	2,000	7.0	1.5	4.0	Mostly final removal harvest
8709_	S & MSS	1,3	District-wide	400	2.1			Mortality salvage, post, pole, commercial fuelwood.
8709_	Fuelwood	1,3	District-wide		2.5			Personal use charge fuelwood
87097	Greenhorn	1,3	T.10S.,R.35E.	1,008	4.8	2.4		3.0 MMBF cable; mostly regeneration harvest
	Subtotal			7,208	26.6			
Total Programmed					226.8 MMBF 36,819 acres			

Table E-1 (Continued)
FIVE YEAR TIMBER SALE ACTION PLAN

Fiscal Year 1988

Sale No.	Sale Name	Mgt Area	Legal Description	Area (Acres)	Volume (MMBF)	Road Miles C	Road Miles R	Comments
Baker District								
88011	Corral	18	T.9S., R.35E., S. 1, 2, 11,12	660	4.0	3.0	5.0	0.7 MMBF skyline; regen & final removal cuts
88012	Rancheria	1	T.11S., R.39E., S. 13, 14, 15, 21, 23	1,111	6.0	3.2	5.8	3.0 MMBF skyline; mostly final removal cut
88013	Tillicum	18	T.8S.,R.35E.,S. 13, 14, 23, 24	881	15.2		11.3	6.0 MMBF skyline; mostly regen harvest
8801_	S MSS	1	District-wide	985	4.0			Wood residue, com'l firewood, post and poles
8801_	Fuelwood	1	District-wide		7.0			Personal use charge fuelwood
	Subtotal			3,637	36.2			
Wallowa Valley District								
88021	Hilton	3	T.3N., R.46E., & 47E.	700	8.0	3.0	18.0	Overmature ponderosa pine; gentle ground
88022	Sled	1,3	T.3N., R.43E. & 44E.	900	6.0	2.0	15.0	Tractor & skyline; mixed treatments
88023	Mitchell	1	T.3N., R.47E.	400	4.0	4.7	3.2	All tractor; primarily over mature timber
88024	Tamarack	1	T.3N., R.47E.,T.3N., R.48E.	925	6.5	3.0	15.0	Mostly tractor; overmature timber; mixed treatments
8802_	S & MSS	1	District-wide	1,000	13.3			Mortality salvage, post & pole sales
8802_	Fuelwood	1	District-wide		2.5			Personal use charge fuelwood
	Subtotal			3,925	40.3			
HCNRA								
88041	Campsite	11	T.6S.,R.47E.,S. 12, 13, 24	700	1.8	0.5	1.3	All tractor; selection harvest
88042	Mud	11	T.5S.,R.46E.	900	2.6	2.1	2.1	40% cable; small group sel. cuts
88043	Fawn	11	T.3N., R.48E.	1,400	4.5	6.0	3.0	40% cable; selection harvest
8804_	S & MSS	11	District-wide	1,100	0.5			Mortality salvage, post & pole sales
8804_	Fuelwood	11	District-wide		1.0			Personal use charge fuelwood
	Subtotal			4,100	10.4			
Eagle Cap District								
8805_	S & MSS	1	District-wide	200	0.6			Mortality salvage, post & poles sales
8805_	Fuelwood	1	District-wide		0.5			Personal use charge fuelwood
	Subtotal			200	1.1			

Table E-1 (Continued)
FIVE YEAR TIMBER SALE ACTION PLAN

Fiscal Year 1988

Sale No.	Sale Name	Mgt Area	Legal Description	Area (Acres)	Volume (MMBF)	Road Miles C	Road Miles R	Comments
La Grande District								
88061	HFR 88	1,3	District-wide	500	2.0			Mostly final removal harvest
88062	Ralph LP	1	T.6S.,R.35E., S. 27	100	2.5			Lodgepole pine salvage sale
88063	Toot LP	1,3	T.3S.,R.35E., S. 4	100	1.2			Lodgepole pine salvage sale
88064	Buck Cr. Resell Corral Creek	1	T.5S.,R.42E., S. 19, 20, 21, 28, 29	1,600	12.0	4.0	8.0	4.2 MMBF skyline; mostly shelterwood cut
88065	East Clark	1	T.1S.,R.41E., S. 5, 6, 7, 8, 17	510	6.0	3.0	1.0	0.8 MMBF skyline; mostly shelterwood cut
88066	Green Hoosier	1	T.6S.,R.36E., S. 9	100	0.6			Mostly shelterwood cut
88067	Moriah	1	T.1S.,R.41E., S. 5, 6, 7, 8, 17	206	2.3		0.6	Mostly shelterwood cut
88068	Grove Creek	1	T.6S.,R.43E., S. 9	45	1.2	0.4		Mostly shelterwood cut
88069	Meadowbrook	1,3	T.6S.,R.36E., S. 8	722	2.7	2.1	2.7	1.1 MMBF skyline; mostly shelterwood cut
880610	8-Saddle LP	3,1	T.5S.,R.36E., S. 14	963	14.7	1.2	3.8	1.6 MMBF cable; lodgepole pine salvage
880611	Jimmy LP	3	T.5S.,R.36E., S. 25	107	1.5	1.6		Lodgepole pine salvage
880612	Lost Goose	3,1	T.7S.,R.42E., S. 5, 6, 7, 8, 9, 17, 18	535	4.0	3.0	6.0	0.4 MMBF skyline; final removal harvest
880613	Frosted Overwood	1,3	T.2S.,R.40E., S. 1, 2, 3, 5, 6	800	1.5			Final removal harvest
880614	Lookout	1	T.6S.,R.35E., S. 6	1,100	6.2	9.0	2.0	3.4 MMBF skyline; mostly shelterwood
880615	Potter's Mill	1,3	T.3S.,R.41E., S. 27, 28, 29, 32, 33	525	6.5	9.0	5.0	1.0 MMBF cable; 3.6 MMBF LPP salvage
8806__	S & MSS	1,3	District-wide	700	5.4			Mortality salvage, com'l fuelwood, post & poles
8806__	Fuelwood	1,3	District-wide		8.0			Personal use charge fuelwood
	Subtotal			8,613	78.3			
Pine District								
88071	Stringer	3,1	T.8S.,R.45E.	350	1.5		1.5	Commercial thinning sale
88072	Aspen	3	T.6S.,R.46E. & 47E.	4,000	13.5	20.0		4.0MMBF skyline; mostly shelterwood
8807_	S & MSS	1,3	District-wide	1,050	1.3			Mortality salvage, post, poles, & com'l fuelwood
8807_	Fuelwood	1,3	District-wide		1.0			Personal use charge fuelwood
	Subtotal			5,400	17.3			
Unity District								
88092	Pluto	1	T.12S. & 13S.,R.36E.	1,500	8.9	3.0	4.0	70% skyline; mostly regeneration harvest
88093	Sherman	3	T.11S. & 12S.,R.36E.	1,500	5.6		4.0	Combination of regen & shelterwood cuts
88094	Pinus	1	T.9S. & 10S.,R.35-1/2&36E	1,000	8.0	2.5		40% skyline; mostly regen harvest
8809_	S & MSS	1,3	District-wide	585	0.8			Mortality salvage, com'l fuelwood, poles
8809_	Fuelwood	1,3	District-wide		2.5			Personal use charge fuelwood
88091	Sheephead	3,1	T.15S.,R.37E.	950	2.5	1.8	0.6	90% skyline; combination regen & final removal
88095	Dry	1,3	T.10S.,R.36E.	550	1.7			Commercial thinning
	Subtotal			6,085	30.0			
	Total programmed				213.6 MMBF			
					31,960 acres			

Table E-1 (Continued)
FIVE YEAR TIMBER SALE ACTION PLAN

Fiscal Year 1989

Sale No.	Sale Name	Mgt Area	Legal Description	Area (Acres)	Volume (MMBF)	Road Miles C	Road Miles R	Comments
Baker District								
89011	Ragged Marble	3	T.9S.,R.39E., S. 7, 8, 15, 16, 17	2,712	9.3	24.1	5.0	6.0 MMBF skyline Baker City Watershed; regen & final removal
89012	High Ham	1	T.6S.,R.37E., S. 9, 15, 16	1,400	12.3	7.0	12.0	4.0 MMBF skyline; mostly regen harvest
8901_	S & MSS	1	District-wide	1,206	5.1			Wood residue, mortality salv., com'l fuelwood
8901_	Fuelwood	1	District-wide		7.0			Personal use charge fuelwood
89013	Upper Wahoo	1,6	T.9S.,R.37E., S. 2	300	2.5	4.0	2.0	Mostly skyline; mostly shelterwood harvest
	Subtotal			5,618	36.2			
Wallowa Valley District								
89021	Baldwin	1,	T.4N.,R.46E.	950	6.0	2.0	6.0	Primarily skyline logging
89022	Brushy	1,3	T.5N.,R.45E.	1,600	7.0	12.0	14.0	Timber stringers-long span skyline
89023	Echo	1	T.4S.,R.46E.	1,160	5.8	3.0	8.0	Longspan skyline & tractor
89024	Miller	1	T.4N.,R.47E.	400	3.0	0.5	5.0	Mostly regeneration harvest
89025	Allen	1	T.4.N.,R.45E.	750	5.0	2.0	9.0	Regeneration harvest
8902_	S MSS	1	District-wide	2,000	11.1			Mortality Salvage, post, poles, com'l fuelwood
8902_	Fuelwood	1	District-wide		2.5			Personal use charge fuelwood
	Subtotal			6,860	40.4			
HCNRA								
89041	Spain	11	T.3N.,R.48E., S. 5, 32	500	1.9		3.5	Selection harvest, all tractor logging
89042	Bald-Granny	11	T.1N.,R.48 & 49E.	2,500	7.0	14.5	4.0	70% skyline; group selection harvest
8904_	S & MSS	11	District-wide	1,100	0.5			Mortality salvage, post, poles, com'l fuelwood
8904_	Fuelwood	11	District-wide		1.0			Personal use charge fuelwood
	Subtotal			4,100	10.4			
Eagle Cap District								
8905_	S & MSS	1	District-wide	200	0.6			Mortality salvage, posts & poles
8905_	Fuelwood	1	District-wide		0.5			Personal use charge fuelwood
	Subtotal			200	1.1			

Table E-1 (continued)
FIVE YEAR TIMBER SALE ACTION PLAN — Fiscal Year 1989

Sale No.	Sale Name	Mgt Area	Legal Description	Area (Acres)	Volume (MMBF)	Road Miles C	Road Miles R	Comments
La Grande District								
89061	East Caps	3	T.2S.,R.36E., S. 32	1,724	7.5	5.1	11.1	3.6 MMBF skyline; mostly shelterwood cut
89062	HRF 89	1,3	District-wide	400	1.5			Final removal stands throughout District
89063	Park West	3	T.5S.,R.36E., S. 7	1,200	6.0	2.0	2.0	1.5 MMBF skyline; mostly shelterwood cut
89064	Little Bear	1,3	T.5S.,R.41E., S. 2, 3, 9, 10	615	7.7	2.0	3.0	Mostly shelterwood harvest
89065	Deally	3	T.4S.,R.37E., S. 19	664	3.9	2.0	0.4	1.0 MMBF skyline; mostly final removal cut
89066	Marathon	1	T.3S.,R.33½E., S. 26	352	1.2		3.0	All final removal harvest
89067	Motel	1	T.3S.,R.33E., S. 22	900	2.5		5.0	1.0 skyline; combination shelterwood & final removal
89068	Mineral	1,3	T.6S.,R.35E., S. 22	600	4.0	2.0	6.0	2.0 skyline; mostly shelterwood harvest
89069	Bourbon	3	T.4S.,R.37E., S. 27	700	6.5		6.0	2.0 skyline; mostly shelterwood harvest
890610	Long Shot	1,3	T.5S.,R.41E., S. 29, 31 32	550	2.4	2.0	3.0	Combination of shelterwood & final removal cut
890611	Morris Mtn LP	1	T.5S.,R.38E., S. 6	200	5.0		3.0	2.5 MMBF cable; LPP salvage sale
890612	Boulevard	3	T.5S.,R.37E., S. 20	392	5.8	3.6		1.2 MMBF skyline; all regen cut
890613	Upper Chicken	1	T.6S.,R.35½E., S. 26	378	5.5	3.8	0.6	1.6 MMBF skyline; includes 3.0 MMBF LPP salvage
8906__	S & MSS	1,3	District-wide	490	7.0			Mortality salvage, com'l fuelwood, post & poles
8906__	Fuelwood	1,3	District-wide		8.0			Personal use charge fuelwood
890614	Sardine	1,3	T.6S.,R.42E., S. 33, T.7S.,R.42E., S. 4	530	3.8	1.0	4.0	Some cable; ½ shelterwood, ½ final removal
	Subtotal			9,695	78.3			
Pine District								
89071	Sullivan	3	T.6S.,R.44E.	850	8.0	5.0		7.0 MMBF skyline; mostly shelterwood cut
89072	Gold King	3	T.6S.,R.44E.	950	6.5	6.0		5.0 MMBF skyline; mostly shelterwood
8907__	S & MSS	1,3	District-wide	1,500	1.8			Mortality salvage com'l fuelwood, posts, poles
8907__	Fuelwood	1,3	District-wide	____	1.0			Personal use charge fuelwood
	Subtotal			3,300	17.3			

Table E-1 (Continued)
FIVE YEAR TIMBER SALE ACTION PLAN

Fiscal Year 1989

Sale No.	Sale Name	Mgt Area	Legal Description	Area (Acres)	Volume (MMBF)	Road Miles C	Road Miles R	Comments
Unity District								
89091	Sunflower	3	T.11S.,R.38E.	800	1.1			Combination of regen & final removal cut
89092	Rail	1	T.13.S.,R.35½E. & 36E	700	5.0	1.5	3.0	Combination of regen & final removal cut
89093	Boiler	1,3	T.11S.,R.38E.	1,100	2.2	1.6	2.3	50% skyline, commercial thin & regen cut
89094	Pogue	3,1	T.11S.,R.36E.	1,400	7.5		2.0	Mostly regeneration harvest
89095	Irish Quartz	18	T.9S. & 10S., R.35E.	1,900	5.0	1.3	6.0	Combination of regen, LPP & chip cull salvage
89096	Little	1,3	T.11S. & 12S., R.36E.	2,000	4.0			Commercial thinning sale
89097	Cliff	3	T.10S.,R.36E.	1,400	0.6			Commercial thinning sale
8909_	S & MSS	1,3	District-wide	1,190	2.1			Mortality salvage, posts, poles & com'l fuelwood
8909_	Fuelwood	1,3	District-wide	———	2.5			Personal use charge fuelwood
	Subtotal			10,490	30.0			
	Total Programmed				213.7 MMBF 40,263 acres			

Table E-1 (Continued)
FIVE YEAR TIMBER SALE ACTION PLAN

Fiscal Year 1990

Sale No.	Sale Name	Mgt Area	Legal Description	Area (Acres)	Volume (MMBF)	Road Miles C	Road Miles R	Comments
Baker District								
90011	Umpqua	1	T.8S.,R.36E., S. 34, 35	1,200	12.0	3.0	5.0	2.0 MMBF skyline; mostly regen harvest
90012	Pasture	18	T.9S.,R.35E.,S. 14, 15, 23, 24	540	5.0	8.0		1.5 MMBF skyline; combination regen & final removal cut.
90013	Rock Willow	1	T.7S.,R.37E.,S. 11, 12 13, 14, 15	656	8.0	10.9		4.0 MMBF skyline; mostly regen harvest
9001_	S & MSS	1	District-wide	1,106	4.2			Wood residue, mortality salv. com'l fuelwood
9001_	Fuelwood	1	District-wide	____	7.0			Personal use charge fuelwood
	Subtotal			3,502	36.2			
Wallowa Valley District								
90021	Marr	3,1	T.2S. & 3S., R.47E.	900	9.0	7.0	15.0	Timbered stringers, mostly skyline
90022	Wood	1,3	T.3N.,R.43E.	600	6.0	2.0	7.0	Tractor & skyline yarding
90023	Rice	1	T.3N.,R.47E.	950	7.3	1.0	10.0	Overmature timber; gentle ground
90024	Eyebrow	1	T.4N. & 5N.,R.41E.	500	5.0	4.0	3.0	Overmature timber; mostly regen harvest
9002_	S & MSS	1	District-wide	2,000	10.6			Mortality salvage, com'l fuelwood, posts & poles
9002_	Fuelwood	1	District-wide	____	2.5			Personal use charge fuelwood
	Subtotal			4,950	40.4			
HCNRA								
90041	Madeover	11	T.5S.,R.46E., S. 13, 14, 15	300	4.0	10.2		All selection harvest. 2.0 MMBF skyline
90042	Cold Duck	11	T.5S.,R.47E., S. 26, 27, 28	600	3.4	2.0	4.0	All selection harvest. 1.7 MMBF skyline
90043	Wild Crossing	11	T.5S.,R.47E., S. 19, 20	300	1.5			All selection harvest. All tractor
9004_	S & MSS	11	District-wide	300	0.5			Mortality salvage, misc. pole & post sales
9004_	Fuelwood	11	District-wide	____	1.0			Personal use charge fuelwood
	Subtotal			1,500	10.4			
Eagle Cap District								
9005_	S & MSS	1	District-wide	200	0.6			Mortality salvage, misc. pole & post sales
9005_	Fuelwood	1	District-wide	____	0.5			Personal use charge fuelwood
	Subtotal			200	1.1			

Table E-1 (Continued)
FIVE YEAR TIMBER SALE ACTION PLAN

Fiscal Year 1990

Sale No.	Sale Name	Mgt Area	Legal Description	Area (Acres)	Volume (MMBF)	Road Miles C	Road Miles R	Comments
Baker District								
90011	Umpqua	1	T.8S.,R.36E., S. 34, 35	1,200	12.0	3.0	5.0	2.0 MMBF skyline; mostly regen harvest
90012	Pasture	18	T.9S.,R.35E.,S. 14, 15, 23, 24	540	5.0	8.0		1.5 MMBF skyline; combination regen & final removal cut.
90013	Rock Willow	1	T.7S.,R.37E.,S. 11, 12 13, 14, 15	656	8.0	10.9		4.0 MMBF skyline; mostly regen harvest
9001_	S & MSS	1	District-wide	1,106	4.2			Wood residue, mortality salv. com'l fuelwood
9001_	Fuelwood	1	District-wide	———	7.0			Personal use charge fuelwood
	Subtotal			3,502	36.2			
Wallowa Valley District								
90021	Marr	3,1	T.2S. & 3S., R.47E.	900	9.0	7.0	15.0	Timbered stringers, mostly skyline
90022	Wood	1,3	T.3N.,R.43E.	600	6.0	2.0	7.0	Tractor & skyline yarding
90023	Rice	1	T.3N.,R.47E.	950	7.3	1.0	10.0	Overmature timber; gentle ground
90024	Eyebrow	1	T.4N. & 5N.,R.41E.	500	5.0	4.0	3.0	Overmature timber; mostly regen harvest
9002_	S & MSS	1	District-wide	2,000	10.6			Mortality salvage, com'l fuelwood, posts & poles
9002_	Fuelwood	1	District-wide	———	2.5			Personal use charge fuelwood
	Subtotal			4,950	40.4			
HCNRA								
90041	Madeover	11	T.5S.,R.46E., S. 13, 14, 15	300	4.0	10.2		All selection harvest. 2.0 MMBF skyline
90042	Cold Duck	11	T.5S.,R.47E., S. 26, 27, 28	600	3.4	2.0	4.0	All selection harvest. 1.7 MMBF skyline
90043	Wild Crossing	11	T.5S.,R.47E., S. 19, 20	300	1.5			All selection harvest. All tractor
9004_	S & MSS	11	District-wide	300	0.5			Mortality salvage, misc. pole & post sales
9004_	Fuelwood	11	District-wide	———	1.0			Personal use charge fuelwood
	Subtotal			1,500	10.4			
Eagle Cap District								
9005_	S & MSS	1	District-wide	200	0.6			Mortality salvage, misc. pole & post sales
9005_	Fuelwood	1	District-wide	———	0.5			Personal use charge fuelwood
	Subtotal			200	1.1			

Table E-1 (Continued)
FIVE YEAR TIMBER SALE ACTION PLAN — Fiscal Year 1990

Sale No.	Sale Name	Mgt Area	Legal Description	Area (Acres)	Volume (MMBF)	Road Miles C	Road Miles R	Comments
La Grande District								
90061	Tanner	3,1	T.7S.,R.36E., S. 33	1,109	16.2	10.0	3.0	7.0 MMBF skyline; mostly lodgepole pine salvage
90062	Skidder	1	T.1S.,R.41E., S. 18	400	4.0			Mostly regeneration harvest
90063	Mac Springs	1	T.3S.,R.34E., S. 8	700	5.0	2.0	4.0	2.1 MMBF skyline; combined shelterwood and final removal harvest.
90064	Blue LP	3	T.5S.,R.34E., S. 4	75	1.0			Lodgepole pine salvage sale
90065	Hangover	3	T.5S.,R.37E.,S. 3, 4, 10	800	5.5			3.5 MMBF skyline; LPP salvage & assoc. species regen harvest
90066	Horn	1,3	T.5S.,R.34E., S. 4	700	4.0			Mostly shelterwood harvest
90067	Camas	1	T.4S.,R.34E., S. 32	450	1.4			All final removal harvest
90068	Warm Creek	3,1	T.2S.,R.40E., S. 35	600	7.5			Mostly skyline & shelterwood harvest
90069	UGRRB LP	3,1	T.6S.,R.36E., S. 34	1,500	15.0			Lodgepole pine salvage sale
9006_	S & MSS	1	District-wide	400	3.6			Mortality salvage, com'l fuelwood, poles & posts
9006_	Fuelwood	1	District-wide		8.0			Personal use charge fuelwood
900610	Swing LP	3	T.5S.,R.36E., S. 12, 13 24	503	7.1	6.6		1.5 MMBF skyline, lodgepole pine salvage
	Subtotal			7,237	78.3			
Pine District								
90071	Shanghai	3	T.7S. & 8S., R.44E., S. 30-31, S. 1-4	312	2.0			Mostly shelterwood harvest
90072	Paddy	1,3	T.7S., R.44E.	2,600	6.0		1.5	2.0 MMBF skyline; mostly shelterwood cut
90073	Eagle	1,3	T.7S.,R.44E., S. 5-8, 16-18	800	5.0	2.0	2.0	2.0 MMBF skyline; mostly shelterwood cut
9007_	S & MSS	1,3	District-wide	1,600	3.3			Personal use charge fuelwood
9007_	Fuelwood	1,3	District-wide		1.0			Mortality salvage, com'l fuelwood, posts & poles
	Subtotal			5,312	17.3			
Unity District								
90091	Loc	1	T.14S.,R.35½E.	80	0.4			Mostly lodgepole pine regen harvest
90092	Steep	1	T.12S. & 13S., R.35½E. & 36E.	400	2.0		1.1	Mostly regen harvest
90093	Payton	1	T.14S.,R.36E.	930	3.6	1.2		50% skyline, mostly regen harvest
90094	N. Fork Corridor	3,1	T.11S.,R.36E.	700	8.8	1.0	3.2	Mostly final removal harvest
90095	Cold	1	T.12S.,R.35½E. & 36E	450	0.9	0.4		50% skyline, mostly regen cut
90096	Eldorado	3,1	T.14S.,R.37E.	1,270	2.2	0.5		50% skyline, mostly final removal cut
90097	Curran	3,1	T.11S.,R.37E.	2,400	2.0	0.8	1.2	Combination of shelterwood & final removal
90098	Parker	1	T.10S.,R.35E., & 35½E.	700	2.0			Mostly regen harvest
90099	Stevens	1	T.13S. & 14S., R.36E.	540	2.2			Mostly regen harvest
900910	Middle Sisters	1	T.10S. & 11S., R.36E.	310	0.4			Mixed silvicultural treatments
900911	Hondu	1	T.14S.,R.37E.	380	0.2	0.5	0.5	50% skyline, mostly regen cut
9009_	S & MSS	1	District-wide	580	2.8			Mortality salvage, com'l fuelwood, poles & posts
9009_	Fuelwood	1	District-wide		2.5			Personal use charge fuelwood
	Subtotal			8,740	30.0			
	Total Programmed				213.7 MMBF 31,441 Acres			

Table E-1 (Continued)
FIVE YEAR TIMBER SALE ACTION PLAN

Fiscal Year 1991

Sale No.	Sale Name	Mgt Area	Legal Description	Area (Acres)	Volume (MMBF)	Road Miles C	Road Miles R	Comments
Baker District								
91011	Sand Gap	1	T.6S.,R.37E., S. 28, 29, 31, 32, 33	1,002	8.0	8.0	3.0	4.0 MMBF skyline, mostly regen cut
91012	Silver Creek	1	T.8S.,R.36E., S. 25, 36, R.37E., S. 29	1,066	16.0	4.0	3.5	4.0 MMBF skyline, mostly regen cut
9101_	S & MSS	1	District-wide	976	5.2			Wood residue, mortality salvage, misc. sales
9101_	Fuelwood	1	District-wide		7.0			Personal use charge fuelwood
	Subtotal			3,044	36.2			
Wallowa Valley District								
91021	Cabin	1	T.4S.,R.46E.	800	8.0			High elevation; small sawtimber
91022	Canyon	1	T.3S. & 4S., R.46E & 47E.	800	6.0			Mostly longspan skyline or helicopter
91023	Clear	1	T.4N. & 5N., R. 41E.	400	3.5			Overmature timber; regen harvest
91024	Big Sheep	1,11	T.4S.,R.46E. & 47E.	1,200	9.0			Longspan skyline
9102_	S & MSS	1	District-wide	2,000	8.5			Mortality salvage, com'l fuelwood, pole & posts
9102_	Fuelwood	1	District-Wide		2.5			Personal use charge fuelwood
91025	Hiway	1,3	T.3N.,R.44E.	400	2.5		3.0	
	Subtotal			5,600	40.0			
HCNRA								
91041	Cold Poison	11	T.4N. & 5N.,R.47E.	1,000	4.0	5.0	10.0	40% skyline; selection harvest
91042	Long Teepee	11	T.4N. & 5N.,R.46E.	400	1.6	5.2	3.0	50% skyline; selection harvest
91043	North Jolly	11,3	T.6S.,R.47E., S. 3, 10, 11	800	3.5	8.5	10.0	40% skyline; selection harvest
9104_	S & MSS	11	District-wide	200	0.3			Mortality salvage, poles & posts
9104_	Fuelwood	11	District-wide		1.0			Personal use charge fuelwood
	Subtotal			2,400	10.4			
Eagle Cap District								
91051	Allen Canyon	1	T.1S.,R.43E., S. 18, 19, 31, 32	700	4.0	5.0	1.5	40% skyline; mostly final removal cut
9105_	S & MSS	1	District-wide	200	0.6			Mortality salvage, poles & posts
9105_	Fuelwood	1	District-wide		0.5			Personal use charge fuelwood
	Subtotal			900	5.1			

Table E-1 (Continued)
FIVE YEAR TIMBER SALE ACTION PLAN

Fiscal Year 1991

Sale No.	Sale Name	Mgt Area	Legal Description	Area (Acres)	Volume (MMBF)	Road Miles C	Road Miles R	Comments
La Grande District								
91061	Ukia	1,3	T.6S.,R.35E., S. 27	1,200	7.0	2.5	7.0	2.6 MMBF skyline; all shelterwood
91062	East Fork	3,1	T.6S.,R.36E., S. 14	800	8.0	10.0	3.0	5.0 MMBF skyline; 50% LPP salvage
91063	Elk Mountain	3	T.4S.,R.37E., S. 25	400	2.5	2.0	2.0	
91064	HFR 91	1,3	District-wide	400	2.5			Final removal stands throughout District
91065	Blue Spring	3	T.5S.,R.35E., S. 28	200	1.5			
91066	Toto	3	T.4S.,R.35E., S. 19, 20, 29, 30	450	4.0		5.0	
91067	Mill Overwood	3	T.3S.,R.41E., S. 29	600	3.5			
91068	Pancake	1	T.3S.,R.34E., S. 11, 12	400	2.5	4.0	3.0	
91069	Cantrell Spring	3	T.2S.,R.36E., S. 24	500	4.0			
910610	East Overwood	1	T.2S.,R.40E., S. 15	700	3.0			
910611	Basin	1	T.6S.,R.43E., S. 20	750	5.0			
910612	Windy Spring	1	T.3S.,R.35-1/2E., S. 11	700	2.5	3.0		
910613	Tin Man	1,3	T.5S.,R.34E., S. 4	600	3.0			
910614	Reservoir	3	T.3S.,R.36E., S. 2	500	4.0			
910615	Stiff II	3,1	T.5S.,R.36E., S. 27	1,400	7.8			
910616	Wizard	1	T.5S.,R.34E., S. 23	400	3.0			
9106__	S & MSS	1,3	District-wide	650	6.5			Mortality salvage, com'l fuelwood, poles & posts
9106__	Fuelwood	1,3	District-wide		8.0			Personal use charge fuelwood
	Subtotal			10,650	78.3			
Pine District								
91071	Turner	1	T.7S.,R.45E., S. 8-10 15-17	700	2.5		0.5	1.6 MMBF skyline; mostly shelterwood cut
91072	Bridge	1,3	T.7S.,R.46E., S. 1-2, 10-15	2,003	3.0	1.0	0.5	0.3 MMBF skyline; mostly shelterwood cut
91073	Stoddard	3,1	T.7S.,R.44E., S. 22-27, 34-36	514	2.0			0.5 MMBF skyline; final removal harvest
91074	Skookum	1,3	T.6S.,R.43E., S. 13-15, 22-27	594	2.0			1.0 MMBF skyline; mostly shelterwood cut
91075	Clarks	1,3	T.6S.,R.46E., S. 27-29, 32-34	345	3.0			0.6 MMBF skyline; final removal harvest
9107_	S & MSS	1,3	District-wide	1,300	3.8			Mortality salvage, com'l fuelwood, posts & poles
9107_	Fuelwood	1,3	District-wide		1.0			Personal use charge fuelwood
	Subtotal			5,456	17.3			

Table E-1 (Continued)
FIVE YEAR TIMBER SALE ACTION PLAN — Fiscal Year 1991

Sale No.	Sale Name	Mgt Area	Legal Description	Area (Acres)	Volume (MMBF)	Road Miles C	Road Miles R	Comments
Unity District								
91091	Cree	3,	T.10S.,R.36E. & 37E.	1,220	2.8	1.2	0.6	Combination com'l thinning & regen harvest
91092	Justice	3,1	T.11S.,R.36E.	2,030	4.0	1.7	2.0	Combination com'l thinning & regen harvest
91093	Morg	1	T.12S.,R.36E.	850	1.7			Commercial thinning sale
91094	SFBR	1	T.13S.,R.36E	770	2.2			Mostly overwood removal
91095	Short	1	T.14S.,R.36. & 37E.	570	2.7	0.8	0.2	Mostly regen harvest, cable logging
91096	PS	1	T.13S.,R.35½E.	40	0.3			Mostly lodgepole pine regen harvest
91097	McWillis	18	T.9S.,R.35E.	720	2.4	0.6	0.4	Mostly lodgepole pine regen harvest
91098	Spring Gulch	3	T.10S.,R.36E.	120	0.5			Lodgepole pine regen harvest
91099	Red	3	T.10S.,R.35½E. & 36E.	400	0.9			Commercial thinning sale
910910	Water Tank	3	T.10S.,R.35½E & 36E.	1,300	6.4			Mostly regen harvest cable logging
9109_	S & MSS	1,3	District-wide	1,330	3.6			Mortality salvage, com'l fuelwood, poles & posts
9109_	Fuelwood	1,3	District-wide	____	2.5			Personal use charge fuelwood
	Subtotal			9,350	30.0			
	Total programmed (volume)			217.3 MMBF				
	Total programmed (acres)			37,400 acres				
	Five year total programmed			1085.1 MMBF				
	Five year avg programmed per year			217.0 MMBF				
	Five year programmed acreage			177,883 acres				

Table E-2
TEN-YEAR TIMBER SALE ACTION PLAN SUMMARIES

Summary of Acres and Volumes by Working Group 3/

Working Group 1/	Ten-Year Goals FY 87-96			Five Year Program FY 87-91			Balance to be Programmed FY 92-96		
	M Acres 1/	MMCF 1/	MMBF 1/	M Acres	MMCF	MMBF	M Acres	MMCF	MMBF
CD	59.38	55.00	300.00	26.93	28.65	156.29	32.45	26.35	143.71
CW	134.84	177.00	980.00	95.68	102.62	568.18	39.16	74.38	411.82
LP	23.83	50.00	145.00	9.29	23.48	68.08	14.54	26.52	76.92
CD-B	.76	1.00	5.00				.76	1.00	5.00
MSS 4/	13.00	22.00	120.00	5.50	10.18	55.50	7.50	11.82	64.50
CLS 4/	20.19	36.00	200.00	8.48	13.42	74.55	11.71	22.58	125.45
Roundwood/ Fuelwood 4/	75.00	128.00	450.00	32.00	43.62	162.50	43.00	84.38	287.50
Totals	327.00	469.00	2,200.00	177.88	221.97	1,085.10	149.12	247.03	1,114.90

Summary of Acres and Volumes by Silvicultural Method 3/

Silvicultural Method 1/	Ten-Year Goals FY 87-96			Five Year Program FY 87-91			Balance to be Programmed FY 92-96		
	M Acres 1/	MMCF 1/	MMBF 1/	M Acres	MMCF	MMBF	M Acres	MMCF	MMBF
RC 2/	13.37	18.14	100.18	39.79	39.12	215.93	-26.42	-20.98	-115.75
INT	20.40	9.09	48.46	13.12	7.06	37.64	7.28	2.03	10.82
REG	126.00	232.99	1,156.96	65.19	96.71	480.25	60.81	136.28	676.71
SEL	59.84	22.78	121.70	12.52	8.42	46.33	47.32	14.36	75.37
Sanitation/ Salvage 4/	107.39	186.00	772.70	47.26	70.66	304.95	0.137	115.34	467.75
Total	327.00	469.00	2,200.00	177.88	221.97	1,085.10	149.12	247.03	1,114.90

Summary of Acres and Volumes by Yarding Methods 3/

Yarding Method 1/	Ten-Year Goals FY 87-96			Five Year Program FY 87-91			Balance to be Programmed FY 92-96		
	M Acres 1/	MMCF 1/	MMBF 1/	M Acres	MMCF	MMBF	M Acres	MMCF	MMBF
G 4/	268.16	371.06	1,658.29	154.34	182.59	867.30	113.82	188.47	790.99
S	52.39	88.61	490.08	21.74	36.78	203.40	30.65	51.83	286.68
H	6.45	9.33	51.63	1.80	2.60	14.40	4.65	6.73	37.23
Totals	327.00	469.00	2,200.00	177.88	221.97	1,085.10	149.12	247.03	1,114.90

1/ CD = Conifer Douglas-fir/ponderosa pine working group
CW = Conifer grand fir/Englemann spruce working group
LP = Lodgepole pine
CD-B = CD working group with severe brushfield competition
G = Ground based (tractor) yarding
S = Skyline cable (0-2,000') yarding
H = Skyline cable (2,000' and over) and helicopter yarding
RC = Removal cut (removal cut from a planned shelterwood or seed tree or overstory removal from an existing two-storied stand)
INT = Intermediate harvest (commercial thinning)
REG = Regeneration harvest (clearcut, preparation or seed cut)
SEL = Selection harvest (NRA-dispersed recreation/timber management or special areas needing continuous forest cover)
Sanitation/Salvage = Fuelwood, cull logs, mortality salvage sales
MSS = Mortality salvage sales
CLS = Cull log sales removed in log form
Roundwood/Fuelwood = Commercial fuelwood and personal use fuelwood sales from small diameter LPP (less than 5 inches), dead LPP and logging slash removed in fuelwood form

2/ RC = This method represents a mix of 70 percent removal cuts from planned shelterwood and seed cuts and 30 percent from overstory removal cuts.

3/ The three summary tables are listed in the order of Forest Plan goal priority. The working group goal is the most significant. The timber program will be adjusted as necessary to assure that the ten-year goal for the Forest, by working group, is approximated. The silvicultural and yarding methods are planning objectives, but not overriding plan goals. These methods will be monitored annually and the need for adjustment considered as a part of the Five Year Timber Sale Action Plan preparation.

4/ Actual programmed sell may vary depending on market availablility and timber sell budgets assigned to the Forest under RPA.

Table E-3
APPROXIMATE DISTRIBUTION OF ANNUAL ALLOWABLE SALE QUANTITY TO DISTRICTS
MMBF/YEAR (MMCF/YEAR)

District	CD 1/	CW 1/	LPP 1/	CDB 1/	Total Regulated Volume 2/
Baker	2.0	19.8	3.0		24.8
Wallowa Valley	10.9	12.5	2.0	0.4	25.8
HCNRA	0.8	5.0	0.4		6.2
Eagle Cap	0.4	1.6	0.3	0.1	2.4
La Grande	7.7	34.0	7.4		49.1
Pine	4.5	10.6		(0.01)	15.1
Unity	3.7	14.5	1.4		19.6
Total (MMBF)	30.0	98.0	14.5	0.5	143.0
(MMCF)	(5.50)	(17.70)	(5.00)	(0.10)	(28.30)

1/ CD = Conifer Douglas-fir, ponderosa pine working group.
CW = Conifer grand fir, white fir, Engelmann spruce working group.
LP = Lodgepole pine working group
CD-B = above working groups with severe brushfield competition.
2/ Total volume column represents the total volume chargeable to the regulated allowable sale quantity. This is the net (green) merchantable sawtimber portion of the proposed Forest timber sales to be offered.

comparisons somewhat since the conversion of board feet to cunits in existing timber management reports is based on 8-inch dbh to 5-inch tops for lodgepole pine and commercial thinning sales.

Calculation of Earned Harvest

The levels of outputs displayed on the preceding tables assume substantial investments in precommercial thinning. If full achievement of this intensive forestry practice is not possible due to lack of funding or other reasons, or if a higher level of achievement occurs, it may be necessary to adjust the Forest's allowable sale quantity (ASQ) accordingly.

Earned harvest of this plan is based on a comparison of the FORPLAN run for the proposed action (proposed intensity level) with a FORPLAN run having the same land allocations but with a reduced level of investment in cultural activities (base level).

Table E-4

APPROXIMATE DISTRIBUTION OF ANNUAL SALE QUANTITIES OF ROUNDWOOD AND FUELWOOD TO THE RANGER DISTRICTS (UNREGULATED VOLUME)
MMBF/YEAR (MMCF/YEAR)

District		---- Roundwood ---- 1/ Mortality Salvage Sawtimber	Other Roundwood	Personal 2/ Use Fuelwood	Total 3/ Unregulated Volume	Grand Total All Volume
Baker		1.0	9.0	9.0	19.0	43.8
Wallowa Valley		1.0	6.0	2.0	9.0	34.8
HCNRA		1.0	0.8	1.0	2.8	9.0
Eagle Cap			0.5	0.5	1.0	3.4
La Grande		1.0	15.8	9.0	25.8	74.9
Pine		1.0	2.9	1.0	4.9	20.0
Unity		1.0	6.0	2.5	9.5	29.1
Subtotal	MMBF	6.0	41.0			
	MMCF	(1.08)	(6.72)			
Total	MMBF	47.0		25.0	72.0	215.0
	MMCF	(7.80)		(5.00)	(12.80)	(41.0)

1/ Roundwood - Includes the following categories of wood:

Mortality Salvage Sawtimber - Volumes of endemic insect and pest killed timber. Includes dead tree volumes of sawtimber on live tree sales. This volume is not included in the allowable sale quantity calculations.

Other Roundwood - Includes volumes of older dead (cull) trees and per acre priced logs not suitable for sawtimber; small diameter (less than five inch DBH and tops smaller than four inches; and commercial firewood sales.

2/ Personal-use firewood - Volume of personal-use fuelwood sold on a cord basis to individual families.

3/ Includes the total (opportunity) volume of nonchargeable sawtimber and wood fiber material. The volume of nonchargeable material to be programmed will depend upon funding available and market demand. Actual sell based on historical projections is expected to be less, particularly during the first half of the decade. For a more complete description of terms and definitions, the reader may wish to refer to the Management Information Handbook, Chapter 30, Timber Codes.

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Table E-5
VEGETATION MANAGEMENT PRACTICES
(Average Annual First Decade Figures)

Practice	Acres
Regeneration Harvest	
Clearcut	6,100
Shelterwood & Seed Cut	
Preparatory Cut	6,300
Removal Cut	1,340
Selection	3,360
Intermediate Harvest	
Commercial Thinning	2,040
Salvage/Sanitation	13,480
Timber Stand Improvement	6,760
Reforestation*	14,110

*Includes both natural and artificial regeneration.

The Earned Harvest Factor (EHF) is computed by comparing the Allowable Sale Quantity (ASQ) for the first decade of this plan, and its accompanying scheduled intensity forestry practices, with an ASQ computed for the same land use allocation for the first decade without those intensive forestry practices. The EHF represents how much volume each acre of applied intensive forestry practices contributes to the plan ASQ for the first decade. On the Wallowa-Whitman precommercial thinning is the only intensive practice used in the calculation.

The Base Level includes restocking and other intensive forestry practices planned for the first decade but does not include precommercial thinning. The harvest level associated with this intensity level is 212 MMCF in the first decade.

The Intensive Level includes all opportunities for intensive forestry practices which are scheduled for the first decade in the preferred alternative are accomplished. The harvest associated with this intensity level is 283 MMCF in the first decade.

Earned harvest gain due to accomplishing planned intensive forestry practices in the first decade is calculated by subtracting the base level harvest from the intensive forestry level harvest and dividing this value by the acres of precommercial thinning planned for the first decade. This calculation is displayed in Table E-6.

Table E-6
CALCULATION OF THE EARNED HARVEST FACTOR (EHF)

$$\text{Earned Harvest Factor} = \frac{\text{Earned Harvest Gain (MMCF)/first decade Intensive - Base}}{\text{Acres of Intensive Forestry practices accomplished in first decade}} = \text{ft}^3\text{/acre/first decade}$$

$$\text{Earned Harvest Factor} = \frac{283 \text{ MMCF} - 212 \text{ MMCF}}{67{,}580 \text{ acres*}} = 1{,}051 \text{ ft}^3\text{/acre/first decade}$$

*Total precommercial thinning scheduled in Decade 1.

Occurrences which may trigger adjustments during plan implementation are listed below:

1. When accomplished earned harvest activities vary more than ±10 percent from the planned level, a change in the allowable sale quantity will be made based on a proration adjustment. The Forest Plan will then be amended to portray the new ASQ.

2. When the cumulative chargeable (regulated) sold volume measured in cubic feet varies more than ±10 percent of the planned volume, an adjustment in sale offerings for the remaining plan period will be triggered. The adjustment will be made with the objective of meeting the decade allowable sale quantity.

3. When cumulative changes greater than ±5 percent of the acres classified capable, available and biologically suitable occur, the allowable sale quantity will be recomputed using the Forest model. Cumulative changes in management area boundaries greater than 5 percent of the acres classified capable, available, and suitable will also trigger a recomputation of the allowable sale quantity using the Forest model. The Forest Plan will then be amended to portray the new Allowable Sale Quantity (ASQ).

4. When agents such as fire, insects or disease affect a cumulative total land area greater than 5 percent of the acres classified capable, available and biologically suitable, a new allowable sale quantity will be calculated using the Forest model and FORPLAN and the Forest Plan will be amended to portray the new ASQ.

*U.S. GOVERNMENT PRINTING OFFICE: 1986-0-692-038/26,012

ERRATA
PROPOSED LAND AND RESOURCE MANAGEMENT PLAN

Wallowa-Whitman National Forest

The last line in the portion designated Local Economy on page 3-3 should read "...108 percent of recent historical levels."

Payments to counties displayed in Table 4-1 (page 4-8) should be as shown below:

	1986-1995	1996-2005	2006-2015	2016-2025	2026-2035
Million $/Year	4.0	4.0	5.1	3.9	3.9